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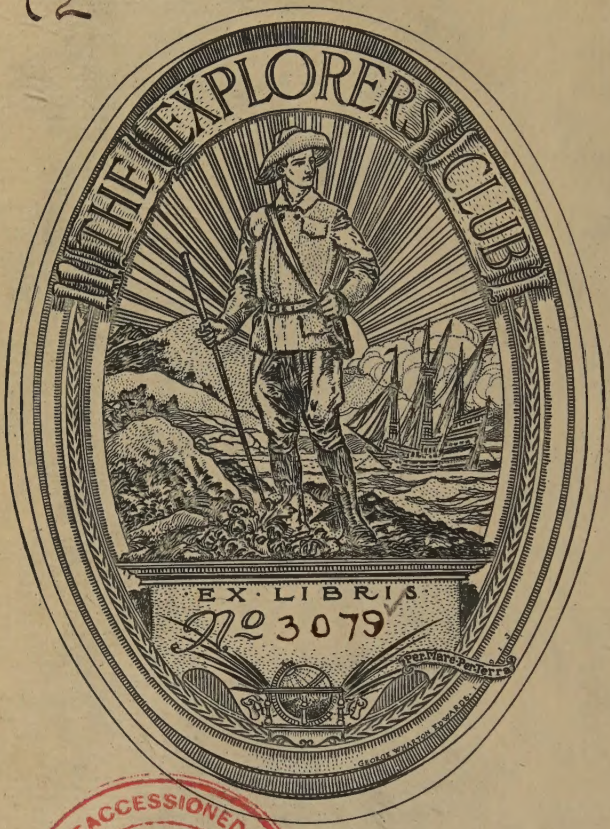

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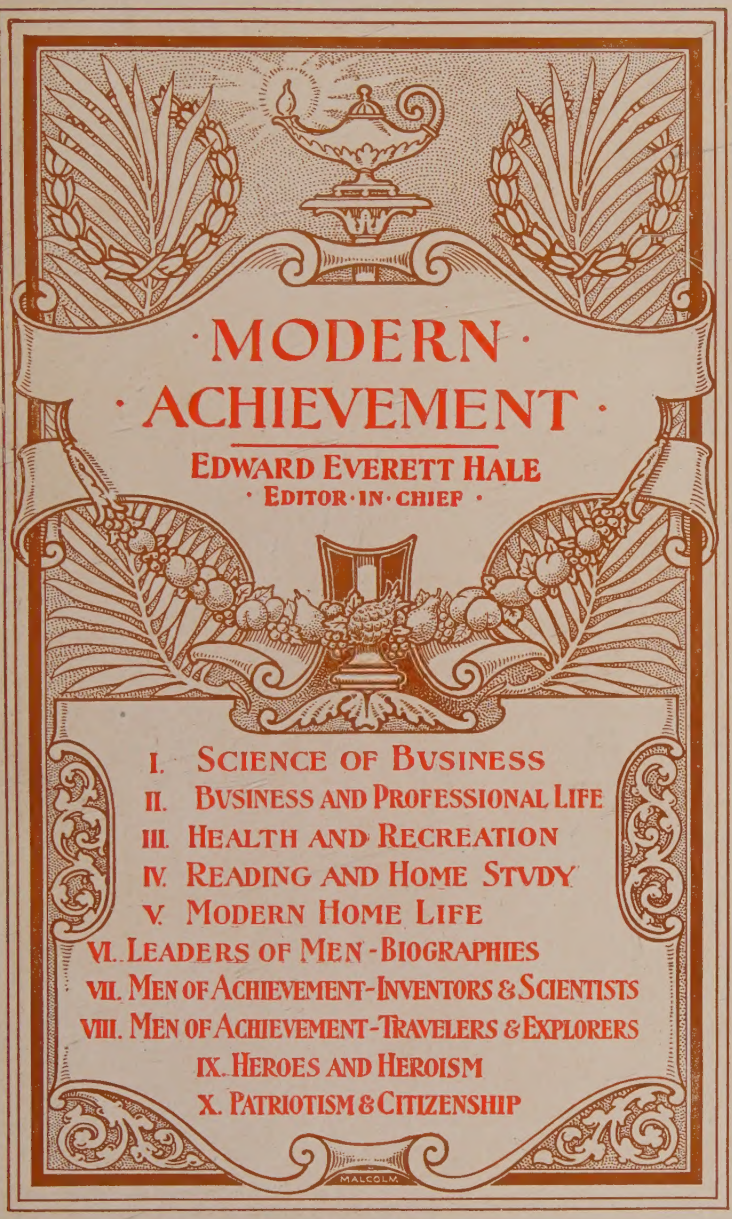
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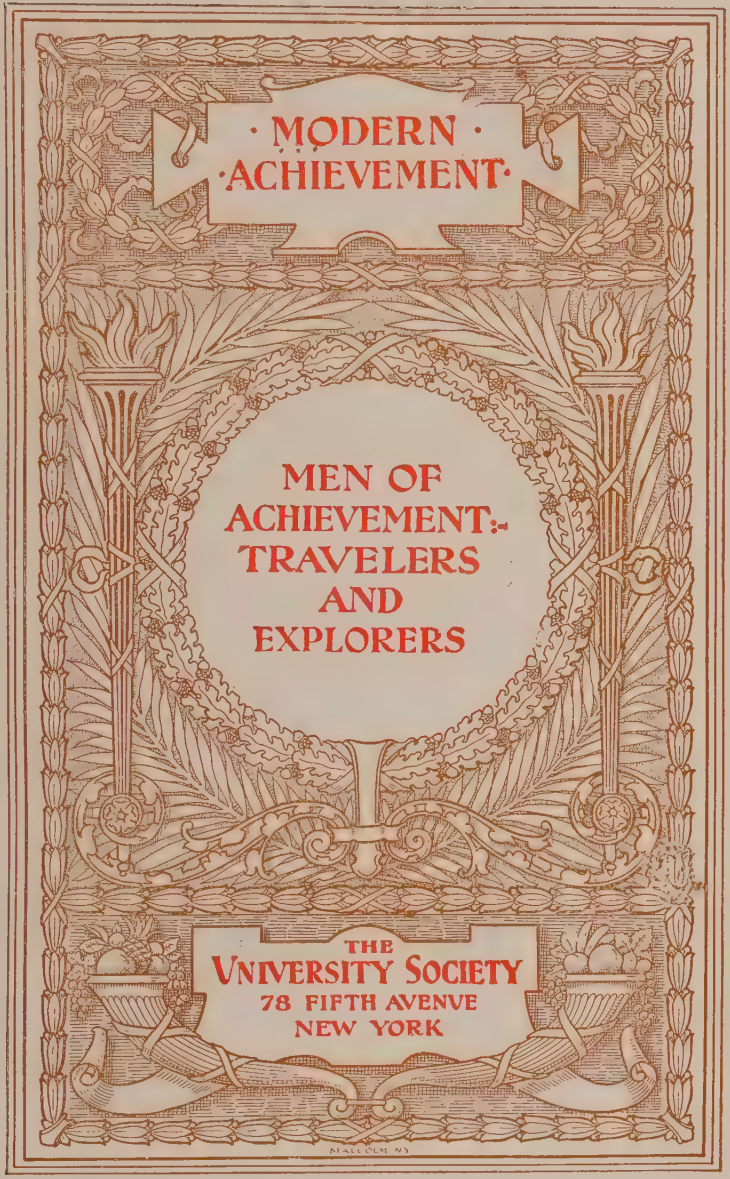
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MEN OF ACHIEVEMENT:- TRAVELERS AND EXPLORERS
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INTRODUCTION

Suggestive Thoughts on Travel and Exploration

Four main causes have led to geographical discovery and exploration, namely, commercial intercourse between different countries, the operations of war, pilgrimages, and missionary zeal, and in later times the pursuit of knowledge for its own sake, which is the highest of all motives.

Encyclopædia Britannica.

The great geographical work of the present century must be the extension of discovery in the arctic and antartic regions. This polar work calls forth the highest qualities of an explorer; it is here that the greatest difficulties must be overcome; and it is here that the most valuable scientific results are to be obtained. *Encyclopædia Britannica.*

A man who has traveled and seen the world brings all countries to his fireside, sees mankind as they are, not as he could wish to have them, can calculate correctly on all he sees and hears, and seldom suffers severely by misfortune.

G. Redford.

The use of traveling is to widen the sphere of observation, and to enable us to examine and judge of things for ourselves; a species of independence and autonomy, and a source of beneficial instruction not to be undervalued.

W. Reading.

We love old travelers; we love to hear them prate, drivel, and lie; we love them for their asinine vanity, their

ability to bore, their luxuriant fertility of imagination, their startling, brilliant, overwhelming mendacity.

("*Mark Twain.*") *S. L. Clemens.*

Histories engage the soul by a variety of sensible occurrences; voyages, and travels, and accounts of strange countries will assist in the work of fixing the attention.

Mandeville.

The fault of modern travelers is that they see nothing out of sight. They talk of eocene periods and tertiary formations, and tell us how the world looked to the plesiosaur. They take science (or nescience) with them, instead of that soul of generous trust their elders had. All their senses are skeptics and doubters, materialists reporting things for other skeptics to doubt still further upon. Nature becomes a reluctant witness upon the stand, badgered with geologist hammers and vials of acid. There have been no travelers since those included in Hakluyt and Purchas, except Martin, perhaps, who saw an inch or two into the invisible at the Western Islands. We have peripatetic lecturers, but no more travelers. Travelers' stories are no longer proverbial. We have picked nearly every apple (wormy or otherwise) from the world's tree of knowledge, and that without an Eve to tempt us. Two or three have hitherto hung luckily beyond reach on a lofty bough shadowing the interior of Africa, but there is a German doctor at this very moment pelting at them with sticks and stones. It may be only next week, and these too, bitten by geographers and geologists, will be thrown away.

Analysis is carried into everything. Even Deity is subjected to chemic tests. We must have exact knowledge, a cabinet stuck full of facts pressed, dried, or preserved in spirits, instead of the large, vague world our fathers had. With them science was poetry; with us, poetry is science. Our modern Eden is a "hortus siccus." Tourists defraud rather than enrich us. They have not that sense of æsthetic proportion which characterized the elder traveler. Earth is

no longer the fine work of art it was, for nothing is left to the imagination. Job Hortop, arrived at the height of the Bermudas, thinks it full time to indulge us in a merman. Nay, there is a story told by Webster, in his "Witchcraft," of a merman with a miter, who, on being sent back to his watery diocese of finland, made what advances he could toward an episcopal benediction by bowing his head thrice. Doubtless he had been consecrated by St. Antony of Padua. A dumb bishop would be sometimes no unpleasant phenomenon, by the way. Sir John Hawkins is not satisfied with telling us about the merely sensual Canaries, but is generous enough to throw us in a handful of "certain flitting islands" to boot. Henry Hawkes describes the visible Mexican cities, and then is not so frugal but that he can give us a few invisible ones. Thus do these generous ancient mariners make children of us again. Their successors show us an earth effete and in a double sense past bearing, tracing out with the eyes of industrious fleas every wrinkle and crowfoot.

The journals of the elder navigators are prose Odysseys. The geographies of our ancestors were works of fancy and imagination. They read poems where we yawn over items. Their world was a huge wonder-horn, exhaustless as that which Thor strove to drain. Ours would scarce quench the small thirst of a bee. No modern voyager brings back the magical foundation-stones of a Tempest. No Marco Polo, traversing the desert beyond the city of Lok, would tell of things able to inspire the mind of Milton with

> "Calling shapes and beckoning shadows dire,
> And airy tongues that syllable men's names
> On sands and shores and desert wildernesses."

It is easy enough to believe the story of Dante, when two thirds of even the upper-world were yet untraversed and unmapped. With every step of the recent traveler our inheritance of the wonderful is diminished. Those beautifully pictured notes of the Possible are redeemed at a ruinous discount in the hard and cumbrous coin of the Actual. How are we not defrauded and impoverished! Does California vie with El Dorado? or are Bruce's Abyssinian kings a set-

off for Prester John? A bird in the bush is worth two in the hand. And if the philosophers have not even yet been able to agree whether the world has any existence independent of ourselves, how do we not gain a loss in every addition to the catalogue of Vulgar Errors? Where are the fishes which nidificated in trees? Where are the monopodes sheltering themselves from the sun beneath their single umbrella-like foot—umbrella-like in everything but the fatal necessity of being borrowed? Where the Acephali, with whom Herodotus, in a kind of ecstasy, wound up his climax of men with abnormal top-pieces? Where the Roc whose eggs are possible bowlders, needing no far-fetched theory of glacier or iceberg to account for them? Where the tails of the men of Kent? Where the no legs of the bird of paradise? Where the Unicorn, with the single horn of his, sovereign against all manner of poisons? Where that Thessalian spring, which, without cost to the country, convicted and punished perjurers? Where are the Amazons of Orellana? Where, in short, the Fountain of Youth? All these, and a thousand other varieties, we have lost, and have got nothing instead of them. And those who have robbed us of them have stolen that which not enriches themselves. It is so much wealth cast into the sea beyond all approach of diving-bells. We owe no thanks to Mr. J. E. Worcester, whose Geography we studied enforcedly at school. Yet even he had his relentings, and in some softer moment vouchsafed us a fine inspiring print of the Maelstrom, answerable to the twenty-four-mile diameter of its suction. Year by year, more and more of the world gets disenchanted. Even the icy privacy of the arctic and antarctic circles is invaded. Our youth are no longer ingenuous, as indeed no ingenuity is demanded of them. Everything is accounted for, everything cut and dried, and the world may be put together as easily as the fragments of a dissected map. The Mysterious bounds nothing now on the North, South, East, or West. We have played Jack Horner with our earth, till there is never a plum left in it.

From Lowell's "Fireside Travel." Published by Houghton, Mifflin & Co.

E.T. 11/7/22

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THE EARLY EXPLORERS

Marco Polo's Account of Japan

The Island of Chipangu, and the Great Kaan's Despatch of a Host Against It

CHIPANGU is an island toward the east in the high seas, 1,500 miles distant from the continent; and a very great island it is.

The people are white, civilized, and well-favored. They are idolaters, and are dependent on nobody. And I can tell you the quantity of gold they have is endless; for they find it in their own islands [and the king does not allow it to be exported. Moreover], few merchants visit the country because it is so far from the main-land, and thus it comes to pass that their gold is abundant beyond all measure.

I will tell you a wonderful thing about the Palace of the Lord of that island. You must know that he hath a great palace which is entirely roofed with fine gold, just as our churches are roofed with lead, insomuch that it would scarcely be possible to estimate its value. Moreover, all the pavement of the palace, and the floors of its chambers, are entirely of gold, in plates like slabs of stone, a good two fingers thick; and the windows also are of gold, so that altogether the richness of this palace is past all bounds and all belief.

They have also pearls in abundance, which are of a rose color, but fine, big, and round, and quite as valuable as the white ones. [In this island some of the dead are buried,

and others are burned. When a body is burned, they put one of these pearls in the mouth, for such is their custom.] They have also quantities of other precious stones.

Cublay, the Grand Kaan, who now reigneth, having heard much of the immense wealth that was in this island, formed a plan to get possession of it. For this purpose he sent two of his barons with a great navy, and a great force of horse and foot. These barons were able and valiant men, one of them called Abacan and the other Vonsainchin, and they weighed with all their company from the ports of Zayton and Kinsay, and put out to sea. They sailed until they reached the island aforesaid, and there they landed, and occupied the open country and the villages, but did not succeed in getting possession of any city or castle. And so a disaster befell them, as I shall now relate.

You must know that there was much ill-will between those two barons, so that one would do nothing to help the other. And it came to pass that there arose a north wind which blew with great fury, and caused great damage along the coasts of that island, for its harbors were few. It blew so hard that the Great Kaan's fleet could not stand against it. And, when the chiefs saw that, they came to the conclusion that, if the ships remained where they were, the whole navy would perish. So they all got on board and made sail to leave the country. But, when they had gone about four miles, they came to a small island, on which they were driven ashore in spite of all they could do; and a great part of the fleet was wrecked, and a great multitude of the force perished, so that there escaped only some 30,000 men, who took refuge on this island.

These held themselves for dead men, for they were without food, and knew not what to do, and they were in great despair when they saw that such of the ships as had escaped the storm were making full sail for their own country, without the slightest sign of turning back to help them. And this was because of the bitter hatred between the two barons in command of the force; for the baron who escaped never showed the slightest desire to return to his colleague who

was left upon the island in the way you have heard, though he might easily have done so after the storm ceased, and it endured not long. He did nothing of the kind, however, but made straight for home. And you must know that the island to which the soldiers had escaped was uninhabited: there was not a creature upon it but themselves.

Now we will tell you what befell those who escaped on the fleet, and also those who were left upon the island.

What Further Came of the Great Kaan's Expedition Against Chipangu

You see those who were left upon the island, some 30,000 souls, as I have said, did hold themselves for dead men, for they saw no possible means of escape. And when the king of the great island got news how the one part of the expedition had saved themselves upon that isle, and the other part was scattered and fled, he was right glad thereat; and he gathered together all the ships of his territory and proceeded with them, the sea now being calm, to the little isle, and landed his troops all round it. And when the Tartars saw them thus arrive, and the whole force landed, without any guard having been left on board the ships (the act of men very little acquainted with such work), they had the sagacity to feign flight. [Now the island was very high in the middle, and, while the enemy were hastening after them by one road, they fetched a compass by another, and] in this way managed to reach the enemy's ships and to get aboard of them. This they did easily enough, for they encountered no opposition.

Once they were on board, they got under way immediately for the great island, and landed there, carrying with them the standards and banners of the king of the island; and in this wise they advanced to the capital. The garrison of the city, suspecting nothing wrong, when they saw their own banners advancing, supposed that it was their own host returning, and so gave them admittance. The Tartars as soon as they had got in seized all the bulwarks, and drove

out all who were in the place except the pretty women, and these they kept for themselves. In this way the Great Kaan's people got possession of the city.

When the king of the great island and his army perceived that both fleet and city were lost, they were greatly cast down: howbeit, they got away to the great island on board some of the ships which had not been carried off. And the king then gathered all his host to the siege of the city, and invested it so straitly that no one could go in or come out. Those who were within held the place for seven months, and strove by all means to send word to the Great Kaan; but it was all in vain, they never could get the intelligence carried to him. So, when they saw they could hold out no longer, they gave themselves up on condition that their lives should be spared, but still that they should never quit the island. And this befell in the year of our Lord 1279. The Great Kaan ordered the baron who had fled so disgracefully to lose his head. And afterward he caused the other also, who had been left on the island, to be put to death, for he had never behaved as a good soldier ought to do.

But I must tell you a wonderful thing that I had forgotten, which happened on this expedition.

You see, at the beginning of the affair, when the Kaan's people had landed on the great island and occupied the open country, as I told you, they stormed a tower belonging to some of the islanders who refused to surrender, and they cut off the heads of all the garrison except eight: on these eight they found it impossible to inflict any wound. Now this was by virtue of certain stones which they had in their arms, inserted between the skin and the flesh, with such skill as not to show at all externally. And the charm and virtue of these stones was such that those who wore them could never perish by steel. So, when the barons learned this, they ordered the men to be beaten to death with clubs. And after their death the stones were extracted from the bodies of all, and were greatly prized. But now let us have done with that matter, and return to our subject.

Concerning the Fashion of the Idols

Now you must know that the idols of Cathay, and of Manzi, and of this island, are all of the same class. And in this island, as well as elsewhere, there be some of the idols that have the head of an ox, some that have the head of a pig, some of a dog, some of a sheep, and some of divers other kinds. And some of them have four heads, while some have three, one growing out of either shoulder. There are also some that have four hands, some ten, some a thousand. And they do put more faith in those idols that have a thousand hands than in any of the others. And when any Christian asks them why they make their idols in so many different guises, and not all alike, they reply that just so their forefathers were wont to have them made, and just so they will leave them to their children, and these to the after generations. And so they will be handed down for ever. And you must understand that the deeds ascribed to these idols are such a parcel of devilries as it is best not to tell. So let us have done with the idols, and speak of other things.

But I must tell you one thing still concerning that island (and 'tis the same with the other Indian islands), that, if the natives take prisoner an enemy who cannot pay a ransom, he who hath the prisoner summons all his friends and relations, and they put the prisoner to death, and then they cook him and eat him, and they say there is no meat in the world so good. But now we will have done with that island and speak of something else.

THE EARLY EXPLORERS

The Discovery of Vinland

From the Saga of Eric the Red

AFTER that sixteen winters had lapsed, from the time when Eric the Red went to colonize Greenland, Leif, Eric's son, sailed out from Greenland to Norway. He arrived in Drontheim in the autumn, when King Olaf Tryggvason was come down from the North, out of Halagoland. Leif put into Nidaros with his ship, and set out at once to visit the king. King Olaf expounded the faith to him, as he did to other heathen men who came to visit him. It proved easy for the king to persuade Leif, and he was accordingly baptised, together with all of his shipmates. Leif remained throughout the winter with the king, by whom he was well entertained.

Heriulf was a son of Bard Heriulfsson. He was a kinsman of Ingolf, the first colonist. Ingolf allotted land to Heriulf between Vág and Reykianess, and he dwelt at first at Drepstokk. Heriulf's wife's name was Thorgerd, and their son, whose name was Biarni, was a most promising man. He formed an inclination for voyaging while he was still young, and he prospered both in property and public esteem. It was his custom to pass his winters alternately abroad and with his father. Biarni soon became the owner of a trading-ship; and during the last winter that he spent in Norway [his father] Heriulf determined to accompany Eric on his voyage to Greenland, and made his preparations

to give up his farm. Upon the ship with Heriulf was a Christian man from the Hebrides, he it was who composed the Sea-roller's Song, which contains this stave:

"Mine adventure to the Meek One,
Monk-heart-searcher, I commit now;
He, who heaven's halls doth govern,
Hold the hawk's-seat ever o'er me!"

Heriulf settled at Heriulfsness, and was a most distinguished man. Eric the Red dwelt at Brattahlid, where he was held in the highest esteem, and all men paid him homage. These were Eric's children: Leif, Thorvald, and Thorstein, and a daughter whose name was Freydis; she was wedded to a man named Thorvard, and they dwelt at Gardar, where the episcopal seat now is. She was a very haughty woman, while Thorvard was a man of little force of character, and Freydis had been wedded to him chiefly because of his wealth. At that time the people of Greenland were heathen.

Biarni arrived with his ship at Eyrar [in Iceland] in the summer of the same year, in the spring of which his father had sailed away. Biarni was much surprised when he heard this news, and would not discharge his cargo. His shipmates inquired of him what he intended to do, and he replied that it was his purpose to keep to his custom, and make his home for the winter with his father; "and I will take the ship to Greenland, if you will bear me company." They all replied that they would abide by his decision. Then said Biarni, "Our voyage must be regarded as foolhardy, seeing that no one of us has ever been in the Greenland Sea." Nevertheless, they put out to sea when they were equipped for the voyage, and sailed for three days, until the land was hidden by the water, and then the fair wind died out, and north winds arose, and fogs, and they knew not whither they were drifting, and thus it lasted for many "dœgr." Then they saw the sun again, and were able to determine the quarters of the heavens; they hoisted sail, and sailed that "dœgr" through before they saw land. They discussed among themselves what land it could be, and

Biarni said that he did not believe that it could be Greenland. They asked whether he wished to sail to this land or not. "It is my counsel" [said he] "to sail close to the land." They did so, and soon saw that the land was level, and covered with woods, and that there were small hillocks upon it. They left the land on their larboard, and let the sheet turn toward the land. They sailed for two "dœgr" before they saw another land. They asked whether Biarni thought this was Greenland yet. He replied that he did not think this any more like Greenland than the former, "because in Greenland there are said to be many great ice mountains." They soon approached this land, and saw that it was a flat and wooded country. The fair wind failed them then, and the crew took counsel together, and concluded that it would be wise to land there, but Biarni would not consent to this. They alleged that they were in need of both wood and water. "Ye have no lack of either of these," says Biarni—a course, forsooth, which won him blame among his shipmates. He bade them hoist sail, which they did, and turning the prow from the land they sailed out upon the high seas, with southwesterly gales, for three "dœgr," when they saw the third land; this land was high and mountainous, with ice mountains upon it. They asked Biarni then whether he would land there, and he replied that he was not disposed to do so, "because this land does not appear to me to offer any attractions." Nor did they lower their sail, but held their course off the land, and saw that it was an island. They left this land astern, and held out to sea with the same fair wind. The wind waxed amain, and Biarni directed them to reef, and not to sail at a speed unbefitting their ship and rigging. They sailed now for four "dœgr," when they saw the fourth land. Again they asked Biarni whether he thought this could be Greenland or not. Biarni answers, "This is likest Greenland, according to that which has been reported to me concerning it, and here we will steer to the land." They directed their course thither, and landed in the evening, below a cape upon which there was a boat, and there, upon this cape,

dwelt Heriulf, Biarni's father, whence the cape took its name, and was afterward called Heriulfsness. Biarni now went to his father, gave up his voyaging, and remained with his father while Heriulf lived, and continued to live there after his father.

Next to this is now to be told how Biarni Heriulfsson came out from Greenland on a visit to Earl Eric, by whom he was well received. Biarni gave an account of his travels [upon the occasion] when he saw the lands, and the people thought that he had been lacking in enterprise, since he had no report to give concerning these countries; and the fact brought him reproach. Biarni was appointed one of the Earl's men, and went out to Greenland the following summer. There was now much talk about voyages of discovery. Leif, the son of Eric the Red, of Brattahlid, visited Biarni Heriulfsson and bought a ship of him, and collected a crew, until they formed altogether a company of thirty-five men. Leif invited his father, Eric, to become the leader of the expedition, but Eric declined, saying that he was then stricken in years, and adding that he was less able to endure the exposure of sea life than he had been. Leif replied that he would nevertheless be the one who would be most apt to bring good luck, and Eric yielded to Leif's solicitation, and rode from home when they were ready to sail. When he was but a short distance from the ship, the horse which Eric was riding stumbled, and he was thrown from his back and wounded his foot, whereupon he exclaimed, "It is not designed for me to discover more lands than the one in which we are now living, nor can we now continue longer together." Eric returned home to Brattahlid, and Leif pursued his way to the ship with his companions, thirty-five men. One of the company was a German, named Tyrker. They put the ship in order; and, when they were ready, they sailed out to sea, and found first that land which Biarni and his shipmates found last. They sailed up to the land, and cast anchor, and launched a boat, and went ashore, and saw no grass there. Great ice mountains lay inland back from the sea, and it was as a

[tableland of] flat rock all the way from the sea to the ice mountains; and the country seemed to them to be entirely devoid of good qualities. Then said Leif, "It has not come to pass with us in regard to this land as with Biarni, that we have not gone upon it. To this country I will now give a name, and call it Helluland." They returned to the ship, put out to sea, and found a second land. They sailed again to the land, and came to anchor, and launched the boat, and went ashore. This was a level wooded land; and there were broad stretches of white sand where they went, and the land was level by the sea. Then said Leif, "This land shall have a name after its nature; and we will call it Markland." They returned to the ship forthwith, and sailed away upon the main with northeast winds, and were out two "dœgr" before they sighted land. They sailed toward this land, and came to an island which lay to the northward off the land. There they went ashore and looked about them, the weather being fine, and they observed that there was dew upon the grass, and it so happened that they touched the dew with their hands, and touched their hands to their mouths, and it seemed to them that they had never before tasted anything so sweet as this. They went aboard their ship again and sailed into a certain sound, which lay between the island and a cape, which jutted out from the land on the north, and they stood in westering past the cape. At ebb-tide there were broad reaches of shallow water there, and they ran their ship aground there, and it was a long distance from the ship to the ocean; yet were they so anxious to go ashore that they could not wait until the tide should rise under their ship, but hastened to the land, where a certain river flows out from a lake. As soon as the tide rose beneath their ship, however, they took the boat and rowed to the ship, which they conveyed up the river, and so into the lake, where they cast anchor and carried their hammocks ashore from the ship, and built themselves booths there. They afterward determined to establish themselves there for the winter, and they accordingly built a large house. There was no lack of salmon there either in the

river or in the lake, and larger salmon than they had ever seen before. The country thereabouts seemed to be possessed of such good qualities that cattle would need no fodder there during the winters. There was no frost there in the winters, and the grass withered but little. The days and nights there were of more nearly equal length than in Greenland or Iceland. On the shortest day of winter, the sun was up between "eyktarstad" and "dagmalastad." When they had completed their house, Leif said to his companions: "I propose now to divide our company into two groups, and to set about an exploration of the country. One-half of our party shall remain at home at the house, while the other half shall investigate the land; and they must not go beyond a point from which they can return home the same evening, and are not to separate [from each other]." Thus they did for a time. Leif, himself, by turns joined the exploring party, or remained behind at the house. Leif was a large and powerful man, and of a most imposing bearing—a man of sagacity, and a very just man in all things.

It was discovered one evening that one of their company was missing; and this proved to be Tyrker, the German. Leif was sorely troubled by this, for Tyrker had lived with Leif and his father for a long time, and had been very devoted to Leif when he was a child. Leif severely reprimanded his companions, and prepared to go in search of him, taking twelve men with him. They had proceeded but a short distance from the house, when they were met by Tyrker, whom they received most cordially. Leif observed at once that his foster-father was in lively spirits. Tyrker had a prominent forehead, restless eyes, small features, was diminutive in stature, and rather a sorry-looking individual withal, but was, nevertheless, a most capable handicraftsman. Leif addressed him, and asked, "Wherefore art thou so belated, foster-father mine, and astray from the others?" In the beginning Tyrker spoke for some time in German, rolling his eyes and grinning, and they could not understand him; but after a time he addressed them in the Northern

tongue "I did not go much further [than you], and yet I have something of novelty to relate. I have found vines and grapes." "Is this indeed true, foster-father"? said Leif. "Of a certainty it is true," quoth he, "for I was born where there is no lack of either grapes or vines." They slept the night through, and on the morrow Leif said to his shipmates, "We will now divide our labors, and each day will either gather grapes or cut vines and fell trees, so as to obtain a cargo of these for my ship." They acted upon this advice, and it is said that their after-boat was filled with grapes. A cargo sufficient for the ship was cut, and when the spring came they made their ship ready, and sailed away; and from its products Leif gave the land a name, and called it Wineland. They sailed out to sea, and had fair winds until they sighted Greenland and the fells below the glaciers. Then one of the men spoke up and said, "Why do you steer the ship so much into the wind?" Leif answers: "I have my mind upon my steering, but on other matters as well. Do ye not see anything out of the common?" They replied that they saw nothing strange. "I do not know," says Leif, "whether it is a ship or a skerry that I see." Now they saw it, and said that it must be a skerry; but he was so much keener of sight than they that he was able to discern men upon the skerry. "I think it best to tack," says Leif, "so that we may draw near to them, that we may be able to render them assistance if they should stand in need of it; and, if they should not be peaceably disposed, we shall still have better command of the situation than they." They approached the skerry, and, lowering their sail, cast anchor, and launched a second small boat, which they had brought with them. Tyrker inquired who was the leader of the party. He replied that his name was Thori, and that he was a Norseman; "but what is thy name?" Leif gave his name. "Art thou a son of Eric the Red of Brattahlid?" says he. Leif responded that he was. "It is now my wish," says Leif, "to take you all into my ship, and likewise so much of your possessions as the ship will hold." This offer was accepted, and

[with their ship] thus laden they held away to Ericsfirth, and sailed until they arrived at Brattahlid. Having discharged the cargo, Leif invited Thori, with his wife, Gudrid, and three others, to make their home with him, and procured quarters for the other members of the crew, both for his own and Thori's men. Leif rescued fifteen persons from the skerry. He was afterwards called Leif the Lucky. Leif had now goodly store both of property and honor. There was serious illness that winter in Thori's party, and Thori and a great number of his people died. Eric the Red also died that winter. There was now much talk about Leif's Wineland journey; and his brother, Thorvald, held that the country had not been sufficiently explored. Thereupon Leif said to Thorvald, "If it be thy will, brother, thou mayest go to Wineland with my ship; but I wish the ship first to fetch the wood which Thori had upon the skerry." And so it was done.

THE EARLY EXPLORERS

First Voyage of Columbus

IT was on Friday, August 3, 1492, early in the morning, that Columbus set sail from the bar of Saltes, a small island formed by the arms of the Adiel, in front of the town of Huelva, and steered in a southwesterly direction for the Canary Islands, whence it was his intention to strike due west. As a guide by which to sail, he had prepared a map or chart, improved upon that sent him by Paulo Toscanelli.

The exultation of Columbus at finding himself, after so many years of baffled hopes, fairly launched on his grand enterprise, was checked by his want of confidence in the resolution and perseverance of his crews. Symptoms soon appeared to warrant his apprehensions. On the third day, the "Pinta" made signal of distress; her rudder was discovered to be broken and unhung. This Columbus surmised to be done through the contrivance of the owners of the caravel, Gomez Rascon, and Christoval Quintero, to disable their vessel and cause her to be left behind. They had been pressed into service greatly against their will, and their caravel seized upon for the expedition, in conformity to the royal orders.

Columbus was much disturbed at this occurrence. The wind was blowing strongly at the time, so he could not assist her without endangering his own vessel. Fortunately, Martin Alonzo Pinzon commanded the "Pinta," and being an able seaman, succeeded in securing the rudder with cords. This, however, was but a temporary expedient; the fasten-

ings gave way on the following day and the other ships had to shorten sail until the rudder could be secured.

This damaged state of the "Pinta" as well as her being in a leaky condition, determined the admiral to touch at the Canary Islands and seek a vessel to replace her. They reached there on the ninth and were detained three weeks, seeking in vain another vessel. They were obliged, therefore, to make a new rudder for the "Pinta" and repair her for the voyage. The latine sails of the "Niña" were also altered into square sails, that she might work more steadily and securely, and be able to keep company with the other vessels.

Early on September 6th Columbus set sail from the island of Gomera, and now might be said first to strike into the region of discovery. For three days a provoking calm kept the vessels loitering with flagging sails, but on the ninth a breeze sprang up with the sun, their sails were once more filled and in the course of the day the last trace of land faded from the horizon and the hearts of the crews failed them.

The admiral tried in every way to soothe their distress, he described to them the magnificent countries to which he was about to conduct them and promised them land and riches. He issued orders to the commanders of the other vessels, that in the event of separation by any accident, they should continue directly westward; but that after sailing seven hundred leagues, they should lay by from midnight until daylight, as at about that distance he confidently expected to find land.

He then resorted to stratagem and kept two reckonings; one correct, and which was retained in secret for his own government; in the other, which was open to general inspection, a number of leagues was daily subtracted from the sailing of the ship, so that the crews were kept in ignorance of the real distance they had advanced.

On the thirteenth of September, being about two hundred leagues from the Canary Islands, Columbus noticed the variation of the needle; a phenomenon which had never before been remarked. He perceived, about nightfall, that

the needle, instead of pointing to the north star, varied about half a point, or between five and six degrees, to the northwest, and still more on the following day. Struck with this circumstance, he observed it attentively for three days, and found that the variation increased as he advanced. He at first made no mention of this phenomenon, knowing how ready his people were to take alarm, but it soon attracted the attention of the pilots, and filled them with consternation. They apprehended that the compass was about to lose its mysterious virtues, and, without this guide, what was to become of them in a vast and trackless ocean?

Columbus tasked his science and ingenuity for reasons with which to allay their terror. He observed that the direction of the needle was not to the polar star, but to some fixed and invisible point. The variation, therefore, was not caused by any fallacy in the compass, but by the movement of the north star itself, which, like the other heavenly bodies, had its changes and revolutions, and every day described a circle round the pole. The high opinion which the pilots entertained of Columbus as a profound astronomer gave weight to this theory, and their alarm subsided.

On September 14, the voyagers were rejoiced by the sight of what they considered harbingers of land. A heron and a tropical bird hovered about the ships.

They had now arrived within the influence of the trade wind. With this propitious breeze directly aft, they were wafted gently but speedily over a tranquil sea. Notwithstanding Columbus's precaution to keep the people ignorant of the distance they had sailed, they were now growing extremely uneasy at the length of the voyage. It is true they had been flattered by various indications of land, and still others were occurring; but all mocked them with vain hopes.

On September 25, the wind being favorable, they continued their course directly to the west. For several days they continued on with the same propitious breeze, tranquil sea, and mild, delightful weather. On October 2, the weeds seen floated from east to west, and on the

third day no birds were to be seen. The crews now began to fear that they had passed between islands, from one to the other of which the birds had been flying. Columbus had also some doubts of the kind, but refused to alter his westward course, until October 7, when he altered his course to the west-southwest.

For three days they stood in this direction and the further they went the more frequent and encouraging were the signs of land. The herbage which floated by was fresh and green, as if recently from land. Tunny fish played about the smooth sea, and a heron, a pelican, and a duck, were seen, all bound in the same direction.

All these, however, were regarded by the crews as so many delusions beguiling them on to destruction; and when on the third day they beheld the sun go down upon a shoreless ocean, they broke forth into turbulent clamor. They insisted upon turning homeward, and abandoning the voyage as hopeless, but Columbus told them it was useless to murmur; the expedition had been sent by the sovereigns to seek the Indies, and happen what might, he was determined to persevere, until, by the blessing of God, he should accomplish the enterprise.

The Landing of Columbus

Columbus was now at open defiance with his crew, and his situation became desperate. Fortunately the manifestations of the vicinity of land were such on the following day as no longer to admit a doubt. Beside a quantity of fresh weeds, such as grow in rivers, they saw a green fish of a kind which keeps about rocks; then a branch of thorn with berries on it and recently separated from the tree, floated by them; then they picked up a reed, a small board, and, above all, a staff artificially carved. All gloom and mutiny now gave way to sanguine expectation; and throughout the day each one was eagerly on the watch, in hopes of being the first to discover the long-sought-for land.

In the evening, when according to invariable custom

on board of the admiral's ship, the mariners had sung the "Salve, Regina," or vesper hymn to the Virgin, he made an impressive address to his crew. He pointed out the goodness of God in thus conducting them by soft and favoring breezes across a tranquil ocean, cheering their hopes continually with fresh signs, increasing as their fears augmented, and thus leading and guiding them to a promised land. He now reminded them of the orders he had given on leaving the Canaries, that, after sailing westward seven hundred leagues, they should not make sail after midnight. Present appearances authorized such a precaution. He thought it probable they would make land that very night; he ordered, therefore, a vigilant lookout to be kept from the forecastle, promising to whosoever should make the discovery a doublet of velvet, in addition to the pension to be given by the sovereigns.

The breeze had been fresh all day, with more sea than usual, and they had made great progress. At sunset they had stood again to the west, and were plowing the waves at a rapid rate, the "Pinta" keeping the lead, from her superior sailing. The greatest animation prevailed throughout the ships; not an eye was closed that night. As the evening darkened, Columbus took his station on the top of the castle or cabin on the high poop of his vessel, ranging his eye along the dusky horizon, and maintaining an intense and unremitting watch. About ten o'clock, he thought he beheld a light glimmering at a great distance. Fearing his eager hopes might deceive him, he called to Pedro Gutierrez, gentleman of the king's bed-chamber, and inquired whether he saw such a light; the latter replied in the affirmative. Doubtful whether it might not yet be some delusion of the fancy, Columbus called Rodrigo Sanchez, of Segovia, and made the same inquiry. By the time the latter had ascended the round-house the light had disappeared. They saw it once or twice afterwards in sudden and passing gleams; as if it were a torch in the bark of a fisherman, rising and sinking with the waves; or in the hand of some person on shore, borne up and down as he walked from house to house. So

transient and uncertain were these gleams, that few attached any importance to them; Columbus, however, considered them as certain signs of land, and, moreover, that the land was inhabited.

They continued their course until two in the morning, when a gun from the "Pinta" gave the joyful signal of land. It was first descried by a mariner named Rodrigo de Triana; but the reward was afterwards adjudged to the admiral, for having previously perceived the light. The land was now clearly seen about two leagues distant, whereupon they took in sail, and laid to, waiting impatiently for the dawn.

The thoughts and feelings of Columbus in this little space of time must have been tumultuous and intense. At length, in spite of every difficulty and danger, he had accomplished his object. The great mystery of the ocean was revealed; his theory, which had been the scoff of sages, was triumphantly established; he had secured to himself a glory durable as the world itself.

It is difficult to conceive the feelings of such a man, at such a moment; or the conjectures which must have thronged upon his mind, as to the land before him, covered with darkness. That it was fruitful, was evident from the vegetables which floated from its shores. He thought, too, that he perceived the fragrance of aromatic groves. The moving light he had beheld proved it the residence of man. But what were its inhabitants? Were they like those of the other parts of the globe; or were they some strange and monstrous race, such as the imagination was prone in those times to give to all remote and unknown regions? Had he come upon some wild island far in the Indian sea; or was this the famed Cipango itself, the object of his golden fancies? A thousand speculations of the kind must have swarmed upon him, as, with his anxious crews, he waited for the night to pass away; wondering whether the morning light would reveal a savage wilderness, or dawn upon spicy groves, and glittering fanes and gilded cities, and all the splendor of Oriental civilization.

It was on Friday morning, the twelfth of October, that Columbus first beheld the New World. As the day dawned, he saw before him a level island, several leagues in extent, and covered with trees like a continual orchard. Though apparently uncultivated, it was populous; for the inhabitants were seen issuing from all parts of the woods and running to the shore. They were perfectly naked, and, as they stood gazing at the ships, appeared by their attitudes and gestures to be lost in astonishment. Columbus made signal for the ships to cast anchor, and the boats to be manned and armed. He entered his own boat, richly attired in scarlet, and holding the royal standard; whilst Martin Alonzo Pinzon and Vincent Jañez, his brother, put off in company in their boats, each with a banner of the enterprise, emblazoned with a green cross, having on either side the letters F and Y, the initials of the Castilian monarchs, Fernando and Ysabel, surmounted by crowns.

As he approached the shore, Columbus, who was disposed for all kinds of agreeable impressions, was delighted with the purity and suavity of the atmosphere, the crystal transparency of the sea, and the extraordinary beauty of the vegetation. He beheld, also, fruits of an unknown kind upon the trees which overhung the shores. On landing, he threw himself on his knees, kissed the earth, and returned thanks to God with tears of joy. His example was followed by the rest, whose hearts indeed overflowed with the same feelings of gratitude. Columbus, then rising, drew his sword, displayed the royal standard, and assembling round him the two captains, with Rodrigo de Escobedo, notary of the armament, Rodrigo Sanchez, and the rest who had landed, he took solemn possession in the name of the Castilian sovereigns, giving the island the name of San Salvador. Having complied with the requisite forms and ceremonies, he called upon all present to take the oath of obedience to him, as admiral and viceroy, representing the persons of the sovereigns.

The feelings of the crew now burst forth in the most extravagant transports. They had recently considered them-

selves devoted men, hurrying forward to destruction; they now looked upon themselves as favorites of fortune, and gave themselves up to the most unbounded joy. They thronged around the admiral with overflowing zeal, some embracing him, others kissing his hands. Those who had been most mutinous and turbulent during the voyage, were now most devoted and enthusiastic. Some begged favors of him, as if he had already wealth and honors in his gift. Many abject spirits, who had outraged him by their insolence, now crouched at his feet, begging pardon for all the trouble they had caused him and promising the blindest obedience for the future.

The natives of the island, when, at the dawn of day, they had beheld the ships hovering on their coast, had supposed them monsters which had issued from the deep during the night. They had crowded to the beach, and watched their movements with awful anxiety. Their veering about, apparently without effort, and the shifting and furling of their sails, resembling huge wings, filled them with astonishment. When they beheld their boats approach the shore, and a number of strange beings clad in glittering steel, or raiment of various colors, landing upon the beach, they fled in affright to the woods. Finding, however, that there was no attempt to pursue nor molest them, they gradually recovered from their terror, and approached the Spaniards with great awe; frequently prostrating themselves on the earth, and making signs of adoration. During the ceremonies of taking possession, they remained gazing in timid admiration at the complexion, the beards, the shining armor and splendid dress of the Spaniards. The admiral particularly attracted their attention, from his commanding height, his air of authority, his dress of scarlet, and the deference which was paid him by his companions; all which pointed him out to be the commander. When they had still further recovered from their fears, they approached the Spaniards, touched their beards, and examined their hands and faces, admiring their whiteness. Columbus was pleased with their gentleness and confiding simplicity, and suffered their scrutiny with

perfect acquiescence, winning them by his benignity. They now supposed that the ships had sailed out of the crystal firmament which bounded their horizon, or had descended from above on their ample wings, and that these marvelous beings were inhabitants of the skies.

The natives of the island were no less objects of curiosity to the Spaniards, differing, as they did, from any race of men they had ever seen. Their appearance gave no promise of either wealth or civilization, for they were entirely naked, and painted with a variety of colors. With some it was confined merely to a part of the face, the nose, or around the eyes; with others it extended to the whole body, and gave them a wild and fantastic appearance. Their complexion was of a tawny or copper hue, and they were entirely destitute of beards. Their hair was not crisped, like the recently-discovered tribes of the African coast, under the same latitude; but straight and coarse, partly cut short above the ears, but some locks were left long behind and falling upon their shoulders. Their features, though obscured and disfigured by paint, were agreeable; they had lofty foreheads and remarkably fine eyes. They were of moderate stature and well-shaped; most of them appeared to be under thirty years of age; there was but one female with them, quite young, naked like her companions, and beautifully formed.

As Columbus supposed himself to have landed on an island at the extremity of India, he called the natives by the general appellation of Indians, which was universally adopted before the true nature of his discovery was known, and has since been extended to all the aborigines of the New World.

The islanders were friendly and gentle. Their only arms were lances, hardened at the end by fire, or pointed with a flint, or the teeth or bone of a fish. There was no iron to be seen, nor did they appear acquainted with its properties; for, when a drawn sword was presented to them, they unguardedly took it by the edge.

Columbus distributed among them colored caps, glass

beads, hawks' bells and other trifles, such as the Portuguese were accustomed to trade with among the nations of the gold coast of Africa. They received them eagerly, hung the beads round their necks, and were wonderfully pleased with their finery, and with the sound of the bells. The Spaniards remained all day on shore, refreshing themselves after their anxious voyage amidst the beautiful groves of the island; and returned on board late in the evening, delighted with all they had seen.

On the following morning, at break of day, the shore was thronged with the natives; some swam off to the ships, others came in light barks which they called canoes, formed of a single tree, hollowed, and capable of holding from one man to the number of forty or fifty. These they managed dextrously with paddles, and, if overturned, swam about in the water with perfect unconcern, as if in their natural element, righting their canoes with great facility, and bailing them with calabashes.

They were eager to procure more toys and trinkets, not, apparently, from any idea of their intrinsic value, but because everything from the hands of the strangers possessed a supernatural virtue in their eyes, as having been brought from heaven; they even picked up fragments of glass and earthenware as valuable prizes. They had but few objects to offer in return, except parrots, of which great numbers were domesticated among them, and cotton yarn, of which they had abundance, and would exchange large balls of five and twenty pounds' weight for the merest trifle. They brought also cakes of a kind of bread called cassava, which constituted a principal part of their food, and was afterwards an important article of provisions with the Spaniards. It was formed from a great root called yuca, which they cultivated in fields. This they cut into small morsels, which they grated or scraped, and strained in a press, making a broad thin cake, which was afterwards dried hard, and would keep, for a long time, being steeped in water when eaten. It was insipid, but nourishing, though the water strained from it in the preparation was a deadly poison.

There was another kind of yuca destitute of this poisonous quality, which was eaten in the root, either boiled or roasted.

The avarice of the discoverers was quickly excited by the sight of small ornaments of gold, worn by some of the natives in their noses. These the latter gladly exchanged for glass beads and hawks' bells; and both parties exulted in the bargain, no doubt admiring each others' simplicity. As gold, however, was an object of royal monopoly in all enterprises of discovery, Columbus forbade any traffic in it without his express sanction; and he put the same prohibition on the traffic for cotton, reserving to the crown all trade for it, wherever it should be found in any quantity.

He inquired of the natives where this gold was procured. They answered him by signs, pointing to the south, where, he understood them, dwelt a king of such wealth that he was served in vessels of wrought gold. He understood, also, that there was land to the south, the southwest and the northwest; and that the people from the last-mentioned quarter frequently proceeded to the southwest in quest of gold and precious stones, making in their way descents upon the islands, and carrying off the inhabitants. Several of the natives showed him scars of wounds received in battles with these invaders. It is evident that a great part of this fancied intelligence was self-delusion on the part of Columbus; for he was under a spell of the imagination, which gave its own shapes and colors to every object. He was persuaded that he had arrived among the islands described by Marco Polo, as lying opposite Cathay, in the Chinese sea, and he construed everything to accord with the account given of those opulent regions. Thus the enemies which the natives spoke of as coming from the northwest, he concluded to be the people of the main land of Asia, the subjects of the great Khan of Tartary, who were represented by the Venetian traveler as accustomed to make war upon the islands, and to enslave their inhabitants. The country to the south, abounding in gold, could be no other than the famous island of Cipango; and the king who was served out of vessels of gold must be the monarch whose magnificent city and

gorgeous palace, covered with plates of gold, had been extolled in such splendid terms by Marco Polo.

The island where Columbus had thus, for the first time, set his foot upon the New World, was called by the natives, Guanahanè. It still retains the name of San Salvador, which he gave to it, though called by the English, Cat Island. The light which he had seen the evening previous to his making land may have been on Watling's Island, which lies a few leagues to the east. San Salvador is one of the great cluster of the Lucayos, or Bahama Islands, which stretch southeast and northwest, from the coast of Florida to Hispaniola, covering the northern coast of Cuba.

THE EARLY EXPLORERS

Amerigo Vespucci's Account of His First Voyage

FROM A LETTER OF AMERIGO VESPUCCI TO PIER SODERINI, GONFALONIER OF THE REPUBLIC OF FLORENCE

MAGNIFICENT LORD. The chief cause which moved to write to you, was at the request of the present bearer, who is named Benvenuto Benvenuti our Florentine, very much, as it is proven, your magnificence's servant, and my very good friend; who happening to be here in this city of Lisbon, begged that I should make communication to your magnificence of the things seen by me in divers regions of the world, by virtue of four voyages which I have made in discovery of new lands: two by order of the king of Castile, King Don Ferrando VI., across the great gulf of the ocean-sea, towards the west; and the other two by command of the puissant King Don Manuel, king of Portugal, towards the south: Telling me that your magnificence would take pleasure thereof, and that herein he hoped to do you service; wherefore I set me to do it. . . . I made preparation for going to see part of the world and its wonders; and herefor the time and place presented themselves most opportunely to me; which was that the King Don Ferrando of Castile being about to despatch four ships to discover new lands towards the west, I was chosen by his highness to go in that fleet to aid in making discovery; and we set out from the port of Cadiz on May 10, 1497, and

took our route through the great gulf of the ocean-sea; in which voyage we were eighteen months and discovered much continental land and innumerable islands, and great part of them inhabited. . . . As I said above, we left the port of Cadiz four consort ships, and began our voyage in direct course to the Fortunate Isles, which are called to-day *la gran Canaria*, which are situated in the ocean-sea at the extremity of the inhabited west, set in the third climate; over which the North Pole has an elevation of twenty-seven and one-half degrees beyond their horizon, and they are two hundred and eighty leagues distant from this city of Lisbon, by the wind between *mezzo di* and *libeccio;* where we remained eight days, taking in provision of water, and wood and other necessary things; and from here, having said our prayers, we weighed anchor, and gave the sails to the wind, beginning our course to westward, taking one quarter by southwest; and so we sailed on till at the end of thirty-seven days we reached a land which we deemed to be a continent, which is distant westwardly from the isles of Canary about a thousand leagues beyond the inhabited region within the torrid zone, for we found the North Pole at an elevation of sixteen degrees above its horizon, and westward, according to the showing of our instruments, seventy-five degrees from the isles of Canary, whereat we anchored with our ships a league and a half from land, and we put out our boats freighted with men and arms; we made towards the land, and before we reached it, had sight of a great number of people who were going along the shore; by which we were much rejoiced, and we observed that they were a naked race; they showed themselves to stand in fear of us; I believe because they saw us clothed and of other appearance they all withdrew to a hill, and for whatsoever signals we made to them of peace and of friendliness, they would not come to parley with us; so that, as the night was now coming on, and as the ships were anchored in a dangerous place, being on a rough and shelterless coast, we decided to remove from there the next day, and to go in search of some harbor or bay, were we might place our ships in

safety; and we sailed with the maestrale wind, thus running along the coast with the land ever in sight, continually in our course observing people along the shore, till after having navigated for two days, we found a place sufficiently secure for the ships, and anchored half a league from land, on which we saw a very great number of people; and this same day we put to land with the boats, and sprang on shore full forty men in good trim; and still the land's people appeared shy of converse with us, and we were unable to encourage them so much as to make them come to speak with us; and this day we labored so greatly in giving them of our wares, such as rattles and mirrors, beads, *spalline*, and other trifles, that some of them took confidence and came to discourse with us; and after having made good friends with them, the night coming on, we took our leave of them and returned to the ships, and the next day when the dawn appeared we saw that there were infinite numbers of people upon the beach, and they had their women and children with them; we went ashore, and found that they were all laden with their worldly goods which are suchlike as, in its place, shall be related, and before we reached the land, many of them jumped into the sea and came swimming to receive us at a bowshot's length, for they are very great swimmers, with as much confidence as if they had for a long time been acquainted us; and we were pleased with this their confidence. For so much as we learned of their manner of life and customs, it was that they go entirely naked, as well the men as the women. . . . They are of medium stature, very well proportioned, their flesh is of a color that verges into red like a lion's mane, and I believe that if they went clothed, they would be as white as we; they have not any hair upon the body, except the hair of the head, which is long and black, and especially in the women, whom it renders handsome; in aspect they are not very good-looking, because they have broad faces, so that they would seem Tartar-like; they let no hair grow on their eyebrows, nor on their eyelids, nor elsewhere, except the hair of the head; for they hold hairiness to be a filthy thing;

they are very light-footed in walking and in running, as well the men as the women, so that a woman recks nothing of running a league or two, as many times we saw them do; and herein they have a very great advantage over us Christians, they swim beyond all belief, and the women better than the men, for we have many times found and seen them swimming two leagues out at sea without anything to rest upon. Their arms are bows and arrows, very well made, save that are not with iron nor any other kind of hard metal, and instead of iron they put animals' or fishes' teeth, or a spike of tough wood, with the point hardened by fire; they are sure marksmen, for they hit whatever they aim at, and in some places the women use these bows; they have other weapons, such as fire-hardened spears, and also clubs with knobs, beautifully carved. Warfare is used amongst them, which they carry on against people not of their own language, very cruelly, without granting life to any one, except for greater suffering. When they go to war, they take their women with them, not that these may fight, but because they carry behind them their worldly goods; for a woman carries on her back for thirty or forty leagues a load which no man could bear, as we have many times seen them do. They are not accustomed to have any captain, nor do they go in any ordered array, for every one is lord of himself, and the cause of their wars is not for lust of dominion, nor of extending their frontiers, nor for inordinate covetousness, but for some ancient enmity which in by-gone times arose amongst them, and when asked why they made war, they knew not any other reason to give than that they did so to avenge the death of their ancestors, or of their parents. These people have neither king, nor lord, nor do they yield obedience to any one, for they live in their own liberty, and how they be stirred up to go to war is that when their enemies have slain or captured any of them, his oldest kinsman rises up and goes about the highways haranguing them to go with him and avenge the death of such his kinsman: and so are they stirred up by fellow-feeling; they have no judicial system, nor do they punish the ill-doer, nor does the

father, nor the mother chastise the children, and marvelously or never did we see any dispute among them. In their conversation they appear simple, and they are very cunning and acute in that which concerns them; they speak little and in a low tone; they use the same articulations as we, since they form their utterances either with the palate, or with the teeth, or on the lips, except that they give different names to things. Many are the varieties of tongues, for in every one hundred leagues we found a change of language, so that they are not understandable each to the other. The manner of their living is very barbarous, for they do not eat at certain hours, and as oftentimes as they will, and it is not much of a boon to them that the will may come more at midnight than by day, for they eat at all hours, and they eat upon the ground without a table-cloth or any other cover, for they have their meats either in earthen basins which they make themselves, or in the halves of pumpkins; they sleep in certain very large nettings made of cotton, suspended in the air, and although this their sleeping may seem uncomfortable, I say that it is sweet to sleep in those, and we slept better in them than in the counterpanes. They are a people smooth and clean of body, because of so continually washing themselves as they do. . . . Amongst those people we did not learn that they had any law, nor can they be called Moors nor Jews, and worse than pagans, because we did not observe that they offered any sacrifice, nor even had they a house of prayer. Their manner of living I judge to be Epicurean; their dwellings are in common, and their houses made in the style of huts, but strongly made, and constructed with very large trees, and covered over with palm-leaves, secure against storms and winds, and in some places of so great breadth and length that in one single house we found there were six hundred souls, and we saw a village of only thirteen houses where there were 4,000 souls; every eight or ten years they change their habitations, and when asked why they did so: because of the soil which, from its filthiness, was already unhealthy and corrupted, and that it bred aches in their bodies, which seemed to us a good

reason; their riches consist of birds' plumes of many colors, or of rosaries which they make from fishbones, or of white or green stones which they put in their cheeks and in their lips and ears, and of many other things which we in nowise value; they use no trade, they neither buy nor sell. In fine, they live and are contented with that which nature gives them. The wealth that we enjoy in this our Europe and elsewhere—such as gold, jewels, pearls, and other riches—they hold as nothing, and although they have them in their own lands they do not labor to obtain them, nor do they value them. They are liberal in giving, for it is rarely they deny you anything, and, on the other hand, liberal in asking, when they show themselves your friends. . . . When they die they use divers manners of obsequies, and some they bury with water and victuals at their heads, thinking that they shall have to eat; they have not nor do they use ceremonies of torches nor of lamentation. In some other places they use the most barbarous and inhuman burial, which is that when a suffering or infirm is as it were at the last pass of death, his kinsmen carry him into a large forest, and attach one of those nets of theirs, in which they sleep, to two trees, and then put him in it, and dance around him for a whole day, and when the night comes on they place at his bolster water, with other victuals, so that he may be able to subsist for four or six days, and then they leave him alone and return to the village, and if the sick man helps himself, and eats and drinks and survives, he returns to the village, and his receive him with ceremony; but few are they who escape; without receiving any further visit they die, and that is their sepulture, and they have many other customs which for prolixity are not related. They use in their sicknesses various forms of medicines, so different from ours that we marvelled how any one escaped, for many times I saw that with a man sick of fever, when it heightened upon him, they bathed him from head to foot with a large quantity of cold water, then they lit a great fire around him, making him turn and turn again every two hours, until they tired him and left him to sleep, and many were cured; with this they

make use of dieting, for they remain three days without eating, and also of blood-letting, but not from the arm, only from the thighs and the loins and the calf of the leg; also they provoke vomiting with their herbs, which are put into the mouth, and they use many other remedies which it would be long to relate; they are much vitiated in the phlegm and in the blood because of their food, which consists chiefly of roots of herbs, and fruits, and fish; they have no seed of wheat nor other grain, and for their ordinary use and feeding they have a root of a tree, from which they make flour, tolerably good, and they call it Iuca, and another which they call Cazabi, and another Ignami; they eat little flesh except human flesh, for your magnificence must know that herein they are so inhuman that they outdo every custom of beasts; for they eat all their enemies whom they kill or capture, as well females as males, with so much savagery that to relate it appears a horrible thing.

The Voyages of the Cabots

FROM HAKLUYT'S "PRINCIPAL NAVIGATIONS, VOYAGES AND DISCOVERIES OF THE ENGLISH NATION."

An extract taken out of the map of Sebastian Cabot, cut by Clement Adams, concerning his discouery of the West Indies, which is to be seene in her Maiesties priuie gallerie at Westminster, and in many other ancient merchants houses.

IN the yeere of our Lord 1497 Iohn Cabot a Venetian, and his sonne Sebastian (with an English fleet set out from Bristoll) discoured that land which no man before that time had attempted, on the 24 of Iune, about fiue of the clocke early in the morning. This land he called Prima vista, that is to say, First seene, because as I suppose it was that part whereof they had the first sight from sea. That Island which lieth out before the land, he called the Island of S. Iohn vpon this occasion, as I thinke, because it was discouered vpon the day of Iohn the Baptist. The inhabitants of this Island vse to weare beasts skinnes, and haue them in as great estimation as we haue our finest garments. In their warres they vse bowes, arrowes, pikes, darts, woodden clubs, and slings. The soile is barren in some places, & yeeldeth little fruit, but it is full of white beares, and stagges farre greater than ours. It yeeldeth plenty of fish, and those very great, as seales, and those which commonly we call salmons; there are soles also aboue a yard in length, but especially

there is great abundance of that kinde of fish which the Sauages call baccalaos. In the same Island also there breed hauks, but they are so blacke that they are very like to rauens, as also their partridges, and egles, which are in like sort blacke.

A discourse of Sebastian Cabot touching his discouery of part of the West India out of England in the time of king Henry the seuenth, vsed to Galeacius Butrigarius the Popes Legate in Spaine, and reported by the sayd Legate in this sort.

DOe you not vnderstand sayd he (speaking to certaine Gentlemen of Venice) how to passe to India toward the Northwest, as did of late a citizen of Venice, so valiant a man, and so well practised in all things pertaining to nauigations, and the science of Cosmographie, that at this present he hath not his like in Spaine, insomuch that for his vertues he is preferred aboue all other pilots that saile to the West Indies, who may not passe thither without his licence, and is therefore called Piloto mayor, that is, the grand Pilot. And when we sayd that we knew him not, he proceeded, saying, that being certaine yeres in the city of Siuil, and desirous to haue some knowledge of the nauigations of the Spanyards, it was tolde him that there was in the city a valiant man, a Venetian borne named Sebastian Cabot, who had the charge of those things, being an expert man in that science, and one that coulde make Cardes for the Sea with his owne hand, and by this report, seeking his acquaintance, hee found him a very gentle person, who intertained him friendly, and shewed him many things, and among other a large Mappe of the world, with certaine particuler Nauigations, as well of the Portugals, as of the Spaniards, and that he spake further vnto him to this effect.

When my father departed from Venice many yeeres since to dwell in England, to follow the trade of marchandises, hee tooke mee with him to the citie of London, while I was very yong, yet hauing neuerthelesse some knowledge of letters of humanitie, and of the Sphere. And when my father died

in that time when newes were brought that Don Christopher Colonus Genuese had discouered the coasts of India, whereof was great talke in all the Court of king Henry the 7. who then raigned, insomuch that all men with great admiration affirmed it to be a thing more diuine than humane, to saile by the West into the East where spices growe, by a way that was neuer knowen before, by this fame and report there increased in my heart a great flame of desire to attempt some notable thing. And vnderstanding by reason of the Sphere, that if I should saile by way of the Northwest, I should by a shorter tract come into India, I thereupon caused the King to be aduertised of my deuise, who immediately commanded two Caruels to bee furnished with all things appertayning to the voyage, which was as farre as I remember in the yeere 1496, in the beginning of Sommer. I began therefore to saile toward the Northwest, not thinking to finde any other land than that of Cathay, & from thence to turne toward India, but after certaine dayes I found that the land ranne towards the North, which was to mee a great displeasure. Neuerthelesse, sayling along by the coast to see if I could finde any gulfe that turned, I found the lande still continent to the 56. degree vnder our Pole. And seeing that there the coast turned toward the East, despairing to finde the passage, I turned backe againe, and sailed downe by the coast of that land toward the Equinoctiall (euer with intent to finde the saide passage to India) and came to that part of this firme lande which is nowe called Florida, where my victuals failing, I departed from thence and returned into England, where I found great tumults among the people, and preparation for warres in Scotland: by reason whereof there was no more consideration had to this voyage.

Whereupon I went into Spaine to the Catholique king, and Queene Elizabeth, which being aduertised what I had done, intertained me, and at their charges furnished certaine ships, wherewith they caused me to saile to discouer the coastes of Brazile, where I found an exceeding great and large riuer named at this present Rio de la plata, that is,

the riuer of siluer, into the which I sailed and followed it into the firme land, more than sixe score leagues, finding it euery where very faier, and inhabited with infinite people, which with admiration came running dayly to our ships. Into this Riuer runne so many other riuers, that it is in maner incredible.

After this I made many other voyages, which I nowe pretermit, and waxing olde, I giue myselfe to rest from such trauels, because there are nowe many yong and lustie Pilots and Mariners of good experience, by whose forwardnesse I doe reioyce in the fruit of my labours, and rest with the charge of this office, as you see.

Another testimonie of the voyage of Sebastian Cabot to the West and Northwest, taken out of the sixt Chapter of the third Decade of Peter Martyr of Angleria.

THese North Seas haue bene searched by one Sebastian Cabot, a Venetian borne, whom being yet but in maner an infant, his parents carried with them into England, hauing occasion to resort thither for trade of marchandise, as is the maner of the Venetians to leaue no part of the world vnsearched to obtaine riches. Hee therefore furnished two ships in England at his owne charges, and first with 300 men directed his course so farre towards the North pole, that euen in the moneth of Iuly he found monstrous heapes of ice swimming on the sea, and in maner continuall day light, yet saw he the land in that tract free from ice, which had bene molten by the heat of the Sunne. Thus seeing such heapes of yce before him, hee was enforced to turne his sailes and follow the West, so coasting still by the shore, that hee was thereby brought so farre into the South, by reason of the land bending so much Southwards, that it was there almost equal in latitude, with the sea Fretum Herculeum, hauing the Northpole eleuate in maner in the same degree. He sailed likewise in this tract so farre towards the West, that hee had the Island of Cuba on his left hand, in maner in the same degree of longitude. As hee traueiled by

the coastes of this great land, (which he named Baccalaos) he saith that hee found the like course of the waters toward the West, but the same to runne more softly and gently than the swift waters which the Spaniards found in their Nauigations Southwards. Wherefore it is not onely more like to be true, but ought also of necessitie to be concluded that betweene both the lands hitherto vnknowen, there should be certaine great open places whereby the waters should thus continually passe from the East vnto the West: which waters I suppose to be driuen about the globe of the earth by the uncessant mouing and impulsion of the heauens, and not to bee swallowed vp and cast vp againe by the breathing of Demogorgon, as some haue imagined, because they see the seas by increase and decrease to ebbe and flowe. Sebastian Cabot himselfe named those lands Baccalaos, because that in the Seas thereabout hee found so great multitudes of certaine bigge fishes much like vnto Tunies (which the inhabitants call Baccalaos) that they sometimes stayed his shippes. He found also the people of those regions couered with beastes skinnes, yet not without the vse of reason. He also saieth there is great plentie of Beares in those regions which use to eate fish: for plunging themselves in y^e^ water, where they perceiue a multitude of these fishes to lie, they fasten their clawes in their scales, and so draw them to land and eate them, so (as he saith) the Beares being thus satisfied with fish, are not noisome to men. Hee declareth further, that in many places of these Regions he saw great plentie of Copper among the inhabitants. Cabot is my very friend, whom I vse familiarly, and delight to haue him sometimes keepe mee company in mine owne house. For being called out of England by the commandement of the Catholique King of Castile, after the death of King Henry the seuenth of that name king of England, he was made one of our council and assistants, as touching the affaires of the new Indies, looking for ships dayly to be furnished for him to discouer this hid secret of Nature.

Vasco Da Gama's Voyage to India

By THOMAS FROST

ON July 8, 1497, Vasco da Gama sailed from the Tagus, in command of three small vessels, manned by one hundred and sixty men, for the purpose of finding the route to India, round the Cape of Good Hope, which had been discovered by Diaz.

The vessels separated on a dark and tempestuous night, but assembled again at Cape Verde, and sailed in company for the south. After enduring very stormy weather they reached St. Helena on November 4. So much hostility was evinced by the islanders that, after an affray with them, the little squadron weighed anchor, without obtaining the needed supplies, and proceeded on the voyage. On the evening of the 18th, they were in sight of the promontory which Diaz had named the Cape of Storms, and which again seemed to merit the appellation. Contrary winds prevailed, and for two days compelled the explorers to tack, constantly shifting the sails, but at length, on Wednesday, November 20, all the squadron doubled this tremendous promontory.

On the 24, a landing was made at a place called Angra del Blas, where the dusky natives seem to have been both suspicious and treacherous. The exploring party fell into an ambush and retreated to their boats; but upon two guns being fired from one of the ships the natives dropped their weapons in affright and fled inland. Gama

afterward had a pillar, bearing the royal arms of Portugal, set up on the beach, to commemorate his presence there, but it was pulled down again by the natives. The little squadron then sailed away, and for several days was compelled by stormy weather to stand away from the coast.

Land was in sight again on January 11, and after coasting it for some distance two of Gama's officers went ashore and had an interview with the king—probably a chief of one of the Kaffir tribes of the country. Presents were made to this dusky potentate, who, in return, regaled his visitors with a supper of boiled fowl and millet. Leaving this place the expedition sailed fifty leagues beyond Sofala, where, on the 24th, Gama ascended a wide river which must have been one of the mouths of the Zambesi. The natives received the adventurers hospitably.

Gama set up a mark on the beach to commemorate his visit, and, after a stay for the requisite repairs of the little fleet, continued his journey. Some islands were passed, which were probably the cluster of islets southward of Cape Delgado. There being much sickness aboard, the vessels anchored before Mozambique; the natives are described as speaking Arabic and having a considerable trade with India. No difficulty was experienced in procuring the supplies that were needed, but as soon as the sheik discovered that the strangers were not worshipers of the Prophet of Mecca, his civility diminished and the people regarded them with mistrust. Instead of two pilots only one was sent, and the permission to take water was withdrawn. Fresh water being essential to the success of the enterprise, Gama ordered his men to take it by force, and then occurred a collision. Gama brought the broadside of his vessel to the town, and subjected it to a vigorous cannonade.

The voyage was then resumed, and on April 7 they reached Mombassa. Here they found more native mistrust. One of the vessels ran upon a shoal and an attempt was made to cut her cable. The ship being got off without much damage they sailed again on the 13. On the same day a native vessel was seized, and much gold and silver found

aboard her, which the captors took possession of, making the crew prisoners. In the evening they anchored before Melinda. To the king of Melinda Gama delivered his Arab prisoners, and then, having obtained some information concerning the navigation, left there April 22, and, on May 20, anchored before Calicut, being the first European vessels that had ever entered an Indian port. Eight days elapsed before Gama received permission to go ashore, which he then did in great state and attended public worship in a Hindoo temple. From the pagoda Gama went to the palace, and made presents to the king, who evinced dissatisfaction at the smallness of their value, representing through his ministers that, to a sovereign of his rank, articles of gold and silver should have been sent. The Mahometan traders used all their influence for Gama's discomfiture, and it availed to have him arrested. On entering into an agreement to land his cargo he was released, and he took care not to go ashore any more. The goods landed, heavy dues were demanded, and Gama's factor and his secretary were arrested. Having sold his cargo Gama made reprisals by seizing several persons of distinction and putting to sea. Finding his vessels followed by an armed flotilla, he threatened to massacre his prisoners if his factor and secretary were not released, and by this threat he obtained their liberty. But instead of thereupon liberating his own prisoners, he set free only a certain number. The flotilla continued the pursuit, but he kept the boats at a distance by firing his guns, and, taking advantage of a fresh and favoring gale, made his escape.

His ships were attacked soon after, however, by vessels supposed to be piratical, one of which was captured and others beaten off and driven ashore. A native vessel brought him a message from the ruler of Goa. Gama suspected a treacherous design, and the messenger being tortured confessed that Gama was to be lured to Goa and there seized. Then came contrary winds, with alternate storms and calms, during which Gama seems to have lost his course, for on February 2 he found himself at Maga-

doxo. He cannonaded the town, since the authorities of the place were Mahometans, and Mahometans had been his enemies elsewhere.

Continuing his voyage homeward he arrived at Melinda, where he stayed for five days, and renewed friendly relations with the king. He then proceeded to Zanzibar, where he was well received. Sickness had so reduced his crew that he had not enough to navigate three vessels, so the least seaworthy of which he burned. He now ran southward as far as San Blas, and put into that port to refresh his crews. The Cape was doubled on April 25, and then they ran northwest for twenty days.

After leaving the Cape Verde Islands the ships encountered a severe storm ; and when the sky became clear the smaller vessel had disappeared. It was surmised afterward, that her captain purposely separated from Gama, in order to reach the Tagus first, for Gama found him there on his arrival.

The commercial results of this voyage were immense. It enabled the Portuguese to have the monopoly of Indian trade for more than a century. The southern and eastern coasts of Africa were no longer a *terra incognita*, and the Sea of Darkness was disarmed of its terrors for the mariner.

Sir Francis Drake's Voyage Round the World

By THOMAS FROST

TOWARD the close of 1577 a small fleet of five vessels, the largest of which was only one hundred tons, was equipped at Plymouth, partly at the cost of Sir Francis Drake, and partly by the aid of certain distinguished persons, among whom the queen is said to have been one. The admiral assumed the command, and, beside the officers of the several vessels, was accompanied by a considerable number of gentlemen as volunteers.

The little fleet sailed from Plymouth, November 15, but encountered such bad weather that the ships were obliged to put into Falmouth to refit, and did not resume the voyage until December 13. On the 27th, they anchored before Mogadore, and sailing from that port on the last day of the year, stood to the southwest, capturing several Spanish vessels on their way. On January 17, 1578, they were off Cape Blanco, where they landed their prisoners and remained several days, bartering with the natives. On the 27th, they were at Muyo, whence, supplies being refused them there, they stood to the westward. As they sailed past San Jago three guns were fired at them, but without doing any damage, and in revenge a Portuguese vessel, laden with wine, was seized. The crew were allowed to go free, with the exception of the pilot, who, because

he was well acquainted with the South American coast was detained.

Having taken in water at Brava they sailed for the coast of Brazil, which was sighted April 5. On May 15, as the fleet sailed slowly along the coast, a bay was discovered, which Drake proceeded in his barge to explore. Two huts were seen, but no natives were visible. Many rheas were observed running over the plains and their eggs discovered in sandy hollows. The unseaworthiness of some of the smaller vessels was so apparent that Drake brought the fleet to anchor, and had one of them broken up. During the progress of this work many of the natives were seen; they were naked and had long black hair. Their weapons were bows and arrows.

The expedition sailed again on June 3, but another vessel broke down and the fleet anchored a few days to break it up. On the 19th they entered Port Julian, where they encountered the savage natives of Patagonia. With these giants the explorers were soon on friendly terms.

Leaving Port Julian, Drake entered the Strait of Magalhaen on August 20, and discovered some small islands, which he named Elizabethides, in honor of the queen. The passage of the Strait was effected in seventeen days, the shores were explored and observations taken of the currents and soundings, and of the habits and manners of the savage aborigines. The western extremity of the Strait was reached September 6, but there arose a violent storm, which lasted more than a month. One of the smaller vessels was separated from the other ships, and after being tossed about several weeks returned to England. Drake's ship and her sole remaining companion were driven by the storm as far south as the fifty-fifth parallel of latitude, where some islands were discovered, on which the crews found vegetables and fresh water, both of which were much needed. Rested and refreshed from their late hardships and fatigue the explorers resumed their voyage; but the storm burst forth again with renewed fury and inclemency. To this tempestuous weather, however, Drake owed the chief geographical dis-

covery of his trip, for the storm drove them so far south that Cape Horn was discovered. Drake saw "the Atlantic Ocean and the South Sea meet in a large and free scope," and sailing into the Pacific anchored in one of the numerous bays on the west coast of Patagonia. The crew of a boat which he here sent ashore were attacked by the natives and every man wounded by a shower of arrows.

Sailing from this inhospitable shore, Drake anchored in the harbor of Valparaiso, where he seized a Spanish vessel laden with wine. Thence they sailed to Coquimbo, where the Spaniards made such preparations for resistance as caused Drake to refrain from attacking the place. He sailed slowly along the coast, plundering the Spaniards and trafficking with the Indians and on February 7, 1579, arrived at Arica, where he captured three vessels. A week later he captured several vessels at Callao.

Drake now stood to the northwest, overhauling and plundering several small Spanish vessels in his course and after taking in wood and water at the Isle of Canes, sailed as far in that direction as the forty-third parallel of north latitude. Here the cold was found so intolerable that the course was changed and the ships, running southward, discovered a bay on the coast of California, where they anchored June 17. Finding the country fertile and the natives hospitable, Drake took formal possession in the name of the Queen of England, and gave the region the name of New Albion.

Drake sailed from these auriferous shores on July 23, and steered toward the rich islands of the eastern archipelago. On September 30, some small islands were discovered in 30° N., and then Drake sailed toward the equator. The Moluccas were in sight on November 3, and on the fifth he anchored off Ternate. Thereupon "three large barges," says Moore, "with the viceroy and several of the principal nobility, came out to conduct the vessel safe into harbor. The king likewise, having been presented with a velvet cloak in sign of amity, afterward came in great state, and was received under the discharge of the cannon, the music strik-

ing up as he approached. This prince had guards who understood the use of firearms, though javelins and bows and arrows were their principal weapons. He was of majestic mien and graceful aspect. Those who attended him were dressed in cottons, and some of them were of venerable aged appearance. He withdrew when the ship came to an anchor, giving his subjects leave to traffic with the strangers, and promised to return within the space of two days. Drake having sent some gentlemen on shore, they were conducted to the castle, and being introduced at court found there were near a thousand people. On each side of the outer gate there waited old interpreters of other countries. When his majesty appeared on this occasion he was dressed in cloth of gold, and had his hair woven into golden ringlets; he had diamond rings on his fingers, and a gold chain round his neck. Near his chair was a page with a fan set with sapphires, which was useful in moderating the heat; and he sat under a rich canopy, where he received the English in state and with marks of honor and respect."

On the ninth, having taken four tons of cloves aboard, Drake weighed anchor and sailed to the southward. Both his ships were so leaky and foul, however, that, on reaching a beautiful fertile island, which was found to be uninhabited, he anchored in a creek. Turtles and fruit were plentiful, and the double processes of refitting the ships and refreshing the crews went on together very pleasantly for a month. Drake left on this island a negro lad and a mulatto girl whom he had taken out of one of his prizes, for which act he has been severely condemned.

On the night of January 19, 1580, his ship grounded on a concealed rock, and though the guns and water-casks were cast overboard could not be moved. The crew were mustered, and to every man the chaplain administered the sacrament of the communion, all on board expecting a watery grave. But the wind changed, and the ship was heaved off the rock, having sustained very little damage.

They now sailed very cautiously to Baratene, where they refitted, proceeding thence to Java. There Drake and his

officers were sumptuously entertained by the king, and allowed to refit, which had again become necessary, and to obtain the supplies they required for the continuance of the voyage. The crews were now become clamorous for returning to England, and orders were given to steer for the Cape of Good Hope. That famous promontory was doubled on June 15, and on July 22, the expedition was at Sierra Leone, where two days were spent. Thence they steered homeward, and on November 3, anchored in Plymouth harbor, having completed the first circumnavigation of the globe ever performed by Englishmen.

Sir Walter Raleigh's Explorations in Guiana

By THOMAS FROST

RALEIGH sailed from Plymouth, February 6, 1595, in his own ship, accompanied by a small bark commanded by Captain Cross. He arrived at Trinidad on March 28, and leaving the ships at anchor off Point Curiapass, explored the coast of the island in his barge, entering every creek, and finding oysters growing on the branches of trees, as described by Pliny. Entering Port of Spain he gleaned all the information he could from the Spanish soldiers of the garrison, who, "having," he says, "been many years without wine, a few draughts made them merry, in which mood they vaunted of Guiana, and the riches thereof, and all that they knew of the ways and passages."

Having captured the town of San Josef by a night assault, and destroyed it with fire, he returned to his anchorage, carrying with him as a prisoner the governor of the place, from whom he elicited all the information he could concerning the navigation of the Orinoco and the supposed situation of El Dorado.

Being joined by two ships under the command of Captains Giffard and Keymis, and a small bark commanded by Captain Caulfield, he at length prepared to ascend the Orinoco in quest of the Golden City.

The island of Trinidad is situated at the mouth of the

Gulf of Para, in the southwest corner of which is the Bay of Guanipa, into which flows the stream that bounds the great delta of the Orinoco on the west. Casting anchor in this bay, Raleigh sent Giffard and Caulfield to the Capuri, but they could not pass the sands that obstructed its mouth. He then sent the master of the "Lion's Whelp," one of the boats, to try the passage of the river Amana, at the bottom of the Bay of Guanipa; but he, being frightened by a report that the natives were ferocious cannibals, beat a quick retreat, and informed Raleigh that the Amana was as impracticable as the Capuri. He next had a "galego" cut down, so as to draw only five feet of water, and sent the master to explore the navigation in another direction. The result of this survey was the discovery of four channels, one of which was as wide as the Thames at Woolwich, but all shallow.

Raleigh now resolved upon a boating expedition, and started with one hundred men, under the guidance of an Indian, who undertook to pilot them into the Orinoco. "But," says Raleigh, "of that which he entered he was utterly ignorant, for he had not seen it for twelve years before. But it chanced, that entering into a river (which because it had no name we called the river of the Red Cross, ourselves being the first Christians that ever came therein) on May 22, we espied a small canoe with three Indians, which I overtook before they could cross the river; the rest of the people on the banks gazed on with a doubtful fear. But when they perceived that we offered them no violence they began to offer to traffic with us for such things as they had.

"As we drew near the bank they all stayed, and we came with our barge to the mouth of a little creek which came from their town into the great river."

Here the Indian pilot and his brother went ashore for wine and fruit, and were nearly slain, the chief of that district being angry with them for bringing strangers into the country. An old Indian was seized as a hostage for the safe return of the pilot, and was installed in the latter's

place. Under the guidance of this old man the expedition ascended the river with the tide. On the third day the galley grounded, and could not be hauled off until all the ballast was cast out. Next day they entered the river Amana, where there was no tide and the current ran so strong that rowing became hard work. The explorers persevered for three days. About an hour after midnight lights were observed ahead, and soon afterwards a village was reached. Most of the inhabitants were absent, having accompanied the chief on an expedition to the head of the Orinoco; but bread, fish, and poultry were obtained, and the explorers rested and refreshed themselves. Daylight showed them that they were in a very beautiful country.

Continuing the ascent of the river they saw four canoes and gave chase, and overtaking them took one of the men for a pilot and sent back their former pilots in one of the canoes. On the fifteenth day they "discovered afar off the mountains of Guiana, to our great joy," and toward evening, came in sight of the Orinoco. Anchoring for the night they landed on the sands, where they found thousands of turtles' eggs. The following morning a chief came to them with thirty or forty of the men of his tribe, and conducted them to his village, "where some of our captains caroused of his wine until they were reasonably pleasant."

The chief provided Raleigh with a pilot, under whose guidance the adventurers began to ascend the Orinoco. Passing the island of Assapana they anchored at night by the island of Ocaywita, and on the following night by the island of Putapayma, choosing islands rather than the main banks to anchor under, on account of their being better for fishing, and abounding in turtles' eggs. On the following day they surveyed the country on the right, which the Indian pilot said was the great plain of Sayma, stretching northward to Cumana and Caraccâs. They anchored at night off the opposite bank, and on the following night, near a village, the chief of which visited them the next morning, attended by many of his people, bringing venison, pork, poultry, fish, fruit, vegetables, and bread. This cazique,

who said he was one hundred and ten, and had walked fourteen miles to see them, also presented Raleigh with an armadillo and several parrakeets, one of which was no bigger than a wren.

On the following night they anchored off the island of Caiama, and next day reached the mouth of the Caroli, which was so shallow that the barge could not get in. The adventurers encamped on the bank, therefore, and having received some supplies of food from a neighboring chief, divided themselves into three parties. One party, commanded by Captain Whiddon, searched for gold; some of the gentlemen volunteers ascended the river by land, and Raleigh himself set off to view the falls of Caroli, finding them very beautiful as well as the country around about them.

Captain Whiddon found some stones which were thought to be sapphires; "but," says Raleigh, "whether it be crystal of the mountains, Bristol diamond, or sapphire, I do not yet know, but I hope the best."

The ascent of the Orinoco was not continued beyond this point. The wet season had commenced and the river was rising daily, while the explorers were exposed to almost incessant showers of rain and violent gusts of wind. Raleigh determined to rejoin his ships, first collecting some specimens of gold ore, and leaving a man and a boy in the village of the centenarian cazique to learn the language of the Indians. He would not leave the Orinoco, however, without learning all he could of the natural features and products of that region. He made another excursion inland, finding the woods full of deer, and the rivers alive with fish and fowl. He went no farther himself, but, leaving Captain Keymis to complete the survey in that direction, returned to the Orinoco and entered a branch of the Winicapora. He had received a report of a marvelous mountain of crystal and wished to see it.

The chief of the next village at which he arrived offered to furnish a guide to the crystal mountain; but his visit was made at the time of a native festival, and "we found them all as drunk as beggars." The adventurers, being weary

and athirst, joined in the carouse, and the crystal mountain seems to have been forgotten. Having obtained a supply of provisions and wine the descent of the river was continued in a violent thunderstorm, and the next day they reached the island of Assapana, where they feasted on the armadillo. Storm now succeeded storm, but the strength of the current enabled them to run one hundred miles daily, and the following night they anchored at the mouth of the Capuri.

When they reached the Bay of Guanipa, where the ships had been left at anchor, they found them gone; so they rowed by night across the mouth of the estuary, and on the following morning had Trinidad in sight, where they found the vessels safely anchored.

Returning to England Raleigh was mortified to find that little regard was paid to his narrative of his discoveries, either by the queen or by the nation. He had not related the result of the journey of Captain Keymis to the "gold mountains," but when he had been several years in the Tower, for his participation in the conspiracy against James I., he disseminated a report of a rich gold mine which he had discovered in Guiana, and the tide of public sympathy at once turned in his favor. James gave little credit to the report, but ordered Raleigh's release, and subsequently gave him permission to lead a second expedition to the Orinoco, with the stipulation not to attack any Spanish settlement.

The disastrous result of this second expedition is matter of history. Raleigh, on reaching the mouth of the Orinoco, sent a force under his son and Captain Keymis to attack the Spanish settlement of San Tomas, which was taken by assault and destroyed by fire.

Though Keymis pretended to be well acquainted with the locality of the gold mine, and to be within a few miles of it, he refused to lead his followers to it and returned to the ships. What passed between him and Raleigh is unknown, but Keymis retired to his cabin and committed suicide; while the disappointment felt by their followers was so great that they resolved to return to England, and take

Raleigh with them to answer to the king for his depredations against the Spanish nation. On the return of the expedition the Spanish court was clamorous against Raleigh, and as he had not been pardoned by the king the warrant for his execution was signed, and the sentence was carried out which had been hanging over him for years.

AMERICA

The Colorado Cliff-dwellers

By ALFRED TERRY BACON

WHEN the conquerors of Mexico reached the Seven Cities of Cibola (the buffalo), great in wealth and population, lying in the valley of the Rio de Zuñi, they found not cities, but rather villages of peaceful agricultural people dwelling in great pueblos three and four stories high, and they searched in vain for the rumored stores of gold. At that time the pueblos held a large population skilled in many arts of civilization. They cultivated large tracts of ground, wove fabrics of cotton, and produced ornate pottery. Their stone-masonry was admirable. But even three hundred years ago it seems that the people were but a remnant of what they had once been. Even then the conquerors wondered at the many ruins which indicated a decline from former greatness. The people have not now the same degree of skill in their native arts which the race once had, and it is probable that when the Spaniards came and found them declining in numbers the old handicrafts were already on the wane.

In a remote age the ancestors of these Pueblo tribes, or a race of kindred habits, filled most of that vast region which is drained by the Colorado River and its affluents, and spread beyond into the valley of the Rio Grande. The explorers of a great extent of country in Utah, Arizona, New Mexico, and Colorado have found everywhere evidences of the wide distribution and wonderful industry of that ancient people.

On the low land which they used to till lie the remains of their villages—rectangular buildings of enormous dimensions and large circular *estufas*, or halls for council and worship. On the sides of the savage cliffs that wall in or overarch the cañons are scattered in every crevice and wrinkle those strange and picturesque ruins which give us the name "Cliff-dwellers" to distinguish this long-forgotten people. And on commanding points, seen far away down the cañons or across the mesas, stand the solitary watch-towers where sentinels might signal to the villagers below on the approach of Northern barbarians. . . .

There is no other district which embraces in so small a compass so great a number and variety of the Cliff-dwellers' ruined works as the cañon of the Little Rio Mancos in Southwestern Colorado. The stream rises in a spur of the San Juan Mountains, near the remote mining-camp called Parrott City. Flowing southward for a few miles through an open valley, it is soon inclosed between the walls of a profound cañon which cuts for nearly thirty miles through a table-land called the Mesa Verde. The cañon is wide enough to have permitted the old inhabitants to plant their crops along the stream, and the cliffs rising on either side to a height of 2000 feet are so curiously broken and grooved and shelving, from the decay of the soft horizontal strata and the projection of the harder, as to offer remarkable facilities for building fortified houses hard of approach and easy of defense. Therefore the whole length of the cañon is filled with ruins, and for fifteen miles beyond it to the borders of New Mexico, where the river meets the Rio San Juan, the valley bears many traces of the ancient occupation.

The scenery of the cañon is wild and imposing in the highest degree. In the dry Colorado air there are few lichens or weather-stains to dull the brightness of the strata to the universal hoariness of moister climates; the vertical cliffs, standing above long slopes of débris, are colored with the brilliant tints of freshly quarried stone. A gay ribbon of green follows the course of the rivulet winding down through

the cañon till it is lost to sight in the vista of crags. The utter silence and solitude of the wilderness reigns through the valley. It is not occupied by any savage tribe, and only a few white men within the last few years have passed through it and told of its wonders; and yet its whole length is but one series of houses and temples that were forsaken centuries ago. I can hardly imagine a more exciting tour of exploration than that which Mr. Jackson's party made on first entering this cañon in 1874.

Above the entrance of the cañon the evidences of prehistoric life begin. On the bottom-land, concealed by shrubbery, are the half-obliterated outlines of square and circular buildings. The houses were of large size, and were plainly no temporary dwelling-places, for an accumulation of decorated pottery fills the ground about them, indicating long occupation. No doubt they were built of adobe—masses of hard clay dried in the sun—which the wear of ages has reduced to smoothly-rounded mounds. For some miles down the cañon remains of this sort occur at short intervals, and at one point there stands a wall built of squared sandstone blocks. Along the ledges of the cliffs on the right bits of ruinous masonry are detected here and there, but for a time there is nothing to excite close attention. At last a watchful eye is arrested by a more interesting object perched at a tremendous height on the western wall of the cañon. It is a house built upon a shelf of rock between the precipices, but, standing seven hundred feet above the stream and differing not at all in color from the crags about it, only the sharpest eyesight can detect the unusual form of the building and the windows marking the two stories.

The climb up to the house-platform is slow and fatiguing, but the trouble is repaid by a sight of one of the most curious ruins on this continent. Before the door of the house, part of the ledge has been reserved for a little esplanade, and to make it broader three small abutments of stone, which once supported a floor, are built on the sloping edge of the rock. Beyond this the house is entered by a small aperture which served as a door. It is the best specimen

of a Cliff-dweller's house that remains to our time. The walls are admirably built of squared stones laid in a hard white mortar. The house is divided into two stories of three rooms each. Behind it a semicircular cistern nearly as high as the house is built against the side of it, and a ladder is arranged for descending from an upper window to the water-level. The floor of the second story was supported by substantial cedar timbers, but only fragments of them remain. The roof, too, has entirely disappeared, but the canopy of natural rock overhanging serves to keep out the weather. The front rooms in both stories are the largest and are most carefully finished. Perhaps they were the parlor and "best bedroom" of some prehistoric housewife. They are plastered throughout with fine, smooth mortar, and even in that remote age the mania for household decoration had a beginning; floor, walls, and ceiling were colored a deep red, surrounded by a broad border of white.

The same cliff on which this house stands has on its side many other ruins; some half destroyed by gradual decay, some crushed by falling rocks, none so perfect as the one described; but all are crowded into the strangest unapproachable crevices of the cañon-wall, like the crannies which swallows choose to hold their nests, far removed from the possibility of depredation. Some are so utterly inaccessible that the explorers, with all their enthusiasm and activity, have never been able to reach them. How any beings not endowed with wings could live at such points it is hard to conceive; it makes one suspicious that the Cliff-dwellers had not quite outgrown the habits of monkey ancestors.

As the cañon widens with the descent of the stream the ruins in the western wall increase in number. One fearful cliff a thousand feet in height is chinked all over its face with tiny houses of one room each, but only a few of them can be detected with the naked eye. One, which was reached by an explorer at the peril of his life, stands intact; ceiling and floor are of the natural rock, and the wall is built in a neat curve conforming to the shape of the ledge.

A mile farther down the stream there is a most interest-

ing group of houses. Eight hundred feet above the valley there is a shelf in the cliff sixty feet in length that is quite covered by a house. The building contains four large rooms, a circular sacred apartment and smaller rooms of irregular shape. It was called by its discoverers "The House of the Sixteen Windows." Behind this house the cliff-side rises smooth and perpendicular thirty feet, but it can be scaled by an ancient stairway cut into it which ascends to a still higher ledge. The stairs lead to the very door of another house filling a niche a hunded and twenty feet long. A great canopy of solid rock overarches the little fortress, reaching far forward beyond the front wall, while from below it is absolutely unapproachable except by the one difficult stairway of niches cut in the rock. In time of war it must have been impregnable. These dwellings have given more ideas about their interior furnishing than any of the others. Among the accumulated rubbish were found corn and beans stored away. In the lower house were two large water-jars of corrugated pottery standing on a floor covered with neatly woven rush matting. In a house not far above were found a bin of charred corn, and a polished hatchet of stone made with remarkable skill.

From this point onward both the valley and the cliffs are filled with the traces of a numerous population, every mile of travel bringing many fresh ones into sight. Among the cliff-houses there is of necessity a variety in form and size as great as the differences of the caves and crevices that hold them; but among the buildings of the low ground there is more uniformity, not only in this cañon but in all the valleys of the region. Most of them may be classed as aggregated dwellings or pueblos, with rectangular rooms, round watch-towers, and large circular buildings. To these must be added a few which seem to have been built only for defense. The straight walls have generally fallen, except the parts supported by an angle of a building; but, as usual in old masonry, the circular walls have much better resisted decay.

About midway down the cañon the curved wall of a large

ruin rises above the thicket. It is a building of very curious design. The outer wall was an exact circle of heavy masonry a hundred and thirty feet in circumference. Within there is another circular wall, concentric with the outer, inclosing one round room with a diameter of twenty feet. The annular space between the two walls was divided by partitions into ten small apartments. Other buildings of the same type occur in this region, some of much larger size and with triple walls. Even in this one, which is comparatively well preserved, the original height is uncertain, though the ruin still stands about fifteen feet high.

The vast quantity of débris about some of them indicates that they were of no significant height, and their perfect symmetry of form, the careful finish of the masonry, the large dimensions and great solidity, made them the most imposing architectural works of that ancient people. I find no reason to doubt that they were their temples, and the presumption is very strong that they were temples for sun-worship. The occurrence of a circular room in connection with nearly every group of buildings is of special interest, as seeming to link the Cliff-dwellers to the modern Pueblo tribes in their religious customs.

Most striking and picturesque of all the ruins are the round watch-towers. On commanding points in the valley, and on the highest pinnacles of the cliffs overlooking the surface of the mesa, they occur with a frequency which is almost pathetic as an indication of the life of eternal vigilance which was led by that old race through the years, perhaps centuries, of exterminating warfare which the savage red men from the North waged upon them. To us the suffering of frontier families at the hands of the same blood-thirsty savages is heartrending. What was it to those who saw year by year their whole race's life withering away, crushed by those wild tribes ?

Near the lower end of the cañon stands one of the most perfect of these towers, rising sixteen feet above the mound on which it is built. It was once attached to an oblong stone building which seems to have been a strongly fortified

house. The rectangular walls, as usual, are prostrate, and have left the tower standing as solitary and picturesque and as full of mystery as the round-towers of Ireland. . . .

In the Montezuma Cañon, just beyond the Colorado State border, there are some remains built after an unusual manner with stones of great size. One building of many rooms, nearly covering a little solitary mesa, is constructed of huge stone blocks not unlike the prehistoric masonry of southern Europe. In the same district there is a ruined line of fortification from which the smaller stones have fallen away and are crumbling to dust, leaving only certain enormous upright stones standing. They rise to a height of seven feet above the soil, and the lower part is buried to a considerable depth. Their resemblance to the hoary Druidical stones of Carnac and Stonehenge is striking, and there is nothing in their appearance to indicate that they belong to a much later age than those primeval monuments of Europe.

All the certain knowledge that we have of the history and manners of the Cliff-dwellers may be very briefly told, for there is no written record of their existence except their own rude picture-writing, cut or painted on the cañon walls, and it is not likely that those hieroglyphics will ever be deciphered. But much may be inferred from their evident kinship to the Moquis of our time; and the resemblance of the ancient architecture and ceramics to the arts as they are still practised in the degenerate pueblos of Arizona gives us many intimations in regard to the habits of the Cliff-dwellers.

It was centuries ago—how long a time no one will ever know—when that old race was strong and numerous, filling the great region from the Rio Grande to the Colorado of the West, and from the San Juan Mountains far down into Northern Mexico. They must have numbered many hundreds of thousands, perhaps millions. It is not probable that they were combined under one government, or that they were even closely leagued together, but that they were essentially one in blood and language is strongly indicated by the similarity of their remains. That they were sympathetic in a common hostility to the dangerous savage tribes about

them can hardly be doubted. They were of peaceful habits and lived by agriculture, having under cultivation many thousands of acres in the rich river-bottoms, which they knew well how to irrigate from streams swollen in summer by the melting snows of the high mountain-ranges. We read of their dry canals in Arizona, so deep that a mounted horseman can hide in them. We know that they raised crops of corn and beans, and in the south cotton, which they skillfully wove. That they had commercial dealing across their whole country is shown by the quantity of shell-ornaments brought from the Pacific coast, which are found in their Colorado dwellings. They did not understand the working of metals, but their implements of stone are of most excellent workmanship. Their weapons indicate the practice of hunting, and while the race was still numerous their forts and their sharp obsidian arrows made easy their resistance to the wandering savage hordes.

I believe that no instance can be cited of a people still in their Stone Age who have surpassed that old race in the mason's art: indeed, I doubt if any such people has even approached their skill in that respect. The difficulty of constructing a great work of well-squared, hammer-dressed stones is enormously increased if the masons must work only with stone implements. Imagine the infinite, toilsome patience of a people who in such a way could rear the ancient Pueblo Bonito of New Mexico, five hundred and forty feet long, three hundred and fourteen feet wide, and four stories high! In one wall of a neighboring building of stone less carefully dressed it is estimated that there were originally no less than thirty million pieces, which were transported, fashioned, and laid by men without a beast of burden or a trowel, chisel, or hammer of metal. . . .

At the time of the Spanish conquest the Pueblo tribes were worshipers of the sun and fire, like all the races of this continent which were above barbarism. To-day, even in those pueblos where a corrupted form of the Roman faith is accepted, there are traces of the old sun-worship mingled with it, and in all pueblos there are large circular rooms,

called estufas, reserved for councils and for worship. The invariable appearance of estufas among the ruined towns, and even on the ledges of the cliffs, shows what sacredness was attached to the circular room, which, perhaps, was symbolic of the sun's orb; it indicates a unity of religious faith between the ancients and moderns.

AMERICA

The Mammoth Cave of Kentucky

By THÉRÈSE YELVERTON

AROUND the caves, for eight or ten miles, was a series of deep ravines, studded with projecting cliffs and rocks, and covered with oak—principally the English oak—and another gigantic species, with leaves from a quarter to half a yard long, but of the same form as the ordinary oak-leaf. Up and down the ravines we scrambled and roamed, as happy as goats or wild chamois. These ravines, or glens, have no doubt been the beds of some ancient river, now, perhaps, flowing through the bowels of the earth; for this part of the country is intersected by underground rivers, a stream often suddenly appearing, which, after flowing on for a few miles, plunges rapidly into the earth and is lost to sight.

An anecdote is told of two millers who had their mills on two different rivers, thirty miles apart. There had been a long drought, and neither mill had been working; but one day miller No. 1 heard his wheel going round at a tremendous pace, and going to examine it perceived a quantity of water, although there had not been a drop of rain for some time. He went over to communicate his good luck to his neighbor.

"Oh!" exclaimed miller No. 2, "you're gettin' my water unbeknownst, for a cloud burst over us the other night and nearly drowned us all." It was evident the millers were working the same stream, which ran for thirty miles underground, similar to the lakes in Florida, called sinks,

which suddenly disappear, leaving all the fish stranded. Sometimes the water returns, sometimes not. . . .

Independent of the caves, the scenery around, to a lover of nature, is well worthy of a visit, and for a summer resort is unsurpassed; shady, romantic walks through the woods; a delicious air breathed from the gigantic mouth of the cavern, whence, in the hot months, it blows cool and refreshing; in the cold ones soft and warm; the actual temperature of the cave never varying. The sensations of heat and cold are produced by comparison with the outer air. It occurred to a medical man that the uniform atmosphere of this cave might be a specific for consumption. Possessed with this theory the doctor had a dozen small houses constructed in the cavern, about a mile or two from its mouth, and to these he conveyed his patients. From the appearance of these places of abode the only wonder is that the poor invalids did not expire after twenty-four hours of residence in them. They, however, contrived to exist there about three months, most of them being carried out *in extremis*. The houses consisted of a single room, built of the rough stone of the cavern—which, in this part, bears all the appearance of a stone-quarry—and without one particle of comfort beyond a boarded floor, the small dwelling being constructed entirely on the model of a lock-up, or "stone-jug." The cells of a modern prison are quite palatial in comparison with them. The darkness is such as might be felt; and it is impossible to realize what darkness actually is until experienced in some place where a ray of sunlight has never penetrated.

From the mouth of the cavern to that part where the doctor's houses were built was a continual, though gradual, descent, and at that spot there was a solid roof of a hundred and fifty feet of earth. The houses—or rather detached stone boxes—were so small that without vitiating the air only one person could remain in them at one time; so that, beside the darkness—in case of any accident to their lamps —these poor creatures must have endured utter solitude. Their food was brought from the hotel, two or three miles

away, on the hill, and consequently must have been cold and comfortless. They were kept prisoners within their narrow cells, for the rough rocks and stones everywhere abounding rendered a promenade for invalids quite impracticable. The deprivation of sunlight, fresh air, and all the beauties of the earth must have been the direst punishment imaginable. No wonder these poor creatures were carried out one by one to die.

The last one having become so weak that it was deemed unsafe to move him, his friends resolved to stay with him in the cavern till the last. What transpired is now beyond investigation. Whether some effect of light, which in this cavern has a most mysterious and awful appearance, or whether the death-bed was one of terrors, owing to some imp of mischief having laid a plan to "scare" them, as they say in this country, is not known; but they rushed terror-stricken from the cave, and on reaching the hotel fell down insensible. Subsequently they declared they had seen spirits carrying away their friend. Mustering a strong force the people from *terra firma*, with the guides and plenty of torches, sallied down to the lower and supposed infernal regions. The spirits, however, had fled, leaving nothing but the stiffening corpse of the poor consumptive. This ended all hope of the cavern as a cure for consumption.

The Mammoth Cave is perhaps the most extensively explored cavern known. It extends for nine continuous miles, so that it would be possible to walk fifty miles in and out by different roads. The cavern consists of various large chambers and lofty domes, averaging from twenty to one hundred feet in height. Some of the chambers exactly resemble the tombs of the kings of Egypt, and the narrow, tortuous defiles through the rocks are also very like the roads into the Pyramids. Most of these chambers are merely natural excavations in the solid rock. One of the white-domed ceilings is covered with a thick scroll-pattern traced in black, and consists entirely of bats, which take up their winter quarters in these caverns, and fare better in them apparently than the consumptives. It is curious how these sightless creatures,

from various parts of the country, find out the caves, so impervious to light and cold, and where, from the noise they make, they seem to have a merry time of it. Not so, however, the visitors passing through this part of the cave; for the bats are apt to fly right in one's face, or stick against one's clothes, and bite furiously at any attempt to dislodge them.

Still farther on there is a vast vault, upward of eighty feet high, formed of gypsum with some sort of crystals imbedded in it. When you sit and gaze on it for some time, by the dim light of the lamps [this was written before the electric lamp was in use], the vault seems to recede into azure space. A bright sparkling vail hangs over it like the Milky Way, seen dimly between the shelving rocks, which bulge out in round, soft layers, of a whitish-gray cast, and look exactly like petrified clouds. By a judicious movement of the light of the lamps a most beautiful phenomenon of cloud-scenery is effected, and by their gradual extinction a Stygian darkness seems to wrap all in perfect horror. This, the "Star Chamber," is one of the finest effects in the Mammoth Cave, and it might be enhanced to the wildest magnificence by an artistic arrangement of variously colored lights. The cave would be a fine place in which to read Dante's Inferno.

Here and there through the cave there are immense pits or chasms, only some few yards in circumference, but from two to three hundred feet in depth. A piece of paper saturated in oil is thrown down and displays the fearful gulf, the bottom of which appears to have the same formation of rock and clay as the top. Sometimes we ascended ten or twenty feet by ladders, and occasionally descended. We traversed about a mile of passage where the ceiling, six feet high, was as smooth and white as plaster could have made it. It was literally covered with the names of former visitors. In some places there were hundreds of cards on the floor, left by guests.

For eight or nine miles we continued to traverse passages and chambers, sometimes over rough pieces of rock, some-

times through the thick dust of ages, sometimes through the tortuous gorges—mere slits between the rocks through which we had to creep—sometimes coming upon a well or spring of sweet water. At about three or four miles from the mouth we came to the chamber called "The Church," from its resemblance to the ancient cathedral vault frequently to be seen on the European continent under churches or monasteries, and called the crypt.

This church of the Mammoth Cave is a singular phenomenon. The roof, which is not lofty, is supported by a number of pillars, in many places forming Gothic arches, and running at somewhat regular distances, dividing the church into aisles. These columns are actually enormous stalactites, and the fresco of petrified water upon them has all the appearance of the most rich and elaborate carving. In some places the pillars of stone have not quite reached the ground, and remain suspended from the roof. Other and smaller condensed stalactites resembled the drooping rosettes which unite the spring of Gothic arches. In one portion of the church is an enormous stone, carved out exactly like the bishop's chair, or throne, usually seen on the high altar. The altar itself is very like those primitive stone edifices sculptured by the early Christians, when driven to celebrate their worship in the catacombs of Rome.

This chamber is a marvelous freak of nature imitating art, for the hand of man has never touched it or worked it into shape; yet if any one were transported here unconsciously, he would, on looking round, imagine himself in the chancel crypt of some old cathedral of the ninth or tenth century. Some romantic lovers, evidently influenced by this idea, had actually, a few weeks before our visit, arrived at the cave, accompanied by their friends and the clergyman, and caused the marriage ceremony to be performed in that very church. It was a whimsical idea, and must have been a cold, comfortless, clammy affair.

A few miles farther on we came to the great natural marvel, the subterranean river, with its buried water and eyeless fish, its beautiful parterres of stone flowers and

shrubs, like a garden covered with morning hoar-frost. On this dismal river we were launched in a little skiff, not the most seaworthy in the world—and I must confess to having experienced a feeling of dread of being upset on that mysterious stream, whose outlet might be, for all we know, in a region we did not care to visit, or even to contemplate the possibility of visiting. The echo had a thrill of awe that made one's flesh creep and hair stand on end. If one called spirits there from the vasty deep, and they did not come, yet they certainly answered from the dark shadows of the rocks falling around the lurid glare of the torches—the only light on the river of Erebus. It was quite easy to believe there were myriads of spirits flitting around, and stretching out their weird arms to carry us down to bottomless Hades.

There is another very interesting cave, which is not so frequently visited by travelers, who when they have seen "the big thing," are only anxious to rush away again. It is not so extensive as the Mammoth, but infinitely more beautiful and more inaccessible, the descent having to be accomplished by ladders; but once down it is a fairy-land, a continuous scene of rapturous enchantment. The stalactites simulate the most exquisite parterre of flowers, the most magnificent forest of crystallized trees, the most wondrous marble carving, even to that perfection of art which shrouds the figure in transparent drapery, like "the statue of the Dead Christ" at Naples; nor was Apollo's charm unknown there. Our guide tapped upon these magic crystals and produced the sweetest harmony ear ever heard, or at least it sounded so.

The walls of the chambers and passages were incrusted with the stalactite flowers. They could be broken off their stems, and as so few visitors ventured down, the guide allowed me to take one. One chamber was absolutely curtained with this marvelous formation of petrified water, and when the guide held the light behind the scene it produced the effect of being draped in the purest amber. These drooping curtains, some fifty feet in height, emitted the most musical tones when struck. If the physician had brought

his patients to these fairy bowers, he might, I think, have succeeded in sending them home quite cured, but I believe the cave had not been discovered then. With a brilliant light the spot was perfectly lovely and the atmosphere was that of constant, unchanged temperature, which puts the human lungs in a state of beatitude. I should not in the least object to live in that paradise of crystal flowers and adamantine forms, the most beautiful that the imagination of man has ever conceived to be curtained in living amber, and pillowed—well, I must admit that—in dust; but it was such *clean* dust. . . . The texture of these stalactites, when examined by daylight, resembles alabaster, thus the leaves, flowers, sprigs, are perfectly beautiful. Nor are these caves without their incidents of life's drama. The grave and the gay have been enacted here as elsewhere. The episode of the physician and his patients was sad enough, but a more terrible tragedy resulted from a wager.

The guides are particular on entering the caves with a large party to beg them to keep together, as it would be impossible for a person to find his own way out of the labyrinth of passages, chambers, etc. Two gentlemen of a party made a bet that they would accomplish the feat, and, taking their opportunity, slipped away from their party without the guides being aware of their absence, and it was not until late in the evening that the other party to the wager remarked that those two foolhardy fellows had not found their way out of the cavern. This coming to the ears of the guide he exclaimed, "Then they are dead men!" Nevertheless they went in full force to do everything that was possible to find them, but spent the night in vain searches. Sometimes they came upon their track in the soft dust, then lost it again.

On the following day the search was renewed by the guide who had escorted the party, and his description of the finding of one of the gentlemen was truly horrible: "It was the most tarnation cutting up job I ever had in my life," said the guide. "We are not much of cowards, we guides—we get accustomed to awfulness down in the bowels of the

earth; but when that *critter's* shrieks first came to my ear I just shivered all over and my feet rooted to the ground—not that I did not wish to save him, the poor devil, but I got an idea that that shriek came right straight from hell, and no mistake, and I had no fancy to go there before I was sent for! Well, when I had wiped my brow and taken a drink I went on in the direction of the sound, for it came every now and again, the echoes making like fifty devils instead of one. I found him sooner than I expected; he was a sight to behold; he flew at me like a tiger; he clutched me, and pulled me, and wrestled with me, yelling and howling like a wild beast. I thought he would have torn me to pieces. I should not have known him again for the same gentleman. His eyes glared, his mouth was foaming, and his hair on end, his clothes all torn and covered with dust. He was a real, raving maniac, and so he remained, as far as I know. The work I had to get him out of that cave! He would stand stock still and shake all over, then suddenly clutch at me again. I was the stronger man of the two, and he was weak from long fasting, or I never should have got him out. The doctor said he was fright-stricken."

And this was the case, as they thought, with the other poor fellow, who was not found for weeks, it having been conjectured that he had fallen down a hole. One of the guides making some new exploration, discovered him sitting down, no sign of decomposition having taken place, and no sign of his having died of starvation, for a piece of biscuit was found in his pocket. He was supposed to have died of terror, the terrible darkness working upon the nervous system, and the hopelessness of penetrating it making the minutes appear hours. A guide who had once been lost there himself for some twenty hours, said he never could believe he had not been there for several days.

AMERICA

The Buffalo on the Plains

By F. PARKMAN

THE wagons one morning had left the camp; Shaw and I were already on horseback, but Henry Chatillon still sat cross-legged by the dead embers of the fire, playing pensively with the lock of his rifle, while his sturdy Wyandotte pony stood quietly behind him, looking over his head. At last he got up, patted the neck of the pony (whom, from an exaggerated appreciation of his merits, he had christened "Five Hundred Dollar"), and then mounted with a melancholy air.

"What is it, Henry?"

"Ah, I feel lonesome; I never been here before; but I see away yonder over the buttes, and down there on the prairie, black—all black with buffalo!"

In the afternoon he and I left the party in search of an antelope, until at the distance of a mile or two on the right the tall, white wagons and the little black specks of horsemen were just visible, so slowly advancing that they seemed motionless; and far on the left rose the broken line of scorched, desolate sand-hills. The vast plain waved with tall, rank grass that swept our horses' bellies; it swayed to and fro in billows with the light breeze, and far and near antelope and wolves were moving through it, the hairy backs of the latter alternately appearing and disappearing as they bounded awkwardly along; while the antelope, with the simple curiosity peculiar to them, would often approach

us closely, their little horns and white throats just visible above the grass tops, as they gazed eagerly at us with their round, black eyes.

I dismounted and amused myself with firing at the wolves. Henry attentively scrutinized the surrounding landscape; at length he gave a shout, and called on me to mount again, pointing in the direction of the sand-hills. A mile and a half from us two minute black specks slowly traversed the face of one of the bare, glaring declivities, and disappeared behind the summit. "Let us go!" cried Henry, belaboring the sides of Five Hundred Dollar; and I, following in his wake, we galloped rapidly through the rank grass toward the base of the hills.

From one of their openings descended a deep ravine, widening as it issued on the prairie. We entered it, and galloping up, in a moment were surrounded by the bleak sand-hills. Half of their steep sides were bare; the rest were scantily clothed with clumps of grass, and various uncouth plants, conspicuous among which appeared the reptile-like prickly-pear. They were gashed with numberless ravines; and as the sky had suddenly darkened, and a cold, gusty wind arisen, the strange shrubs and the dreary hills looked doubly wild and desolate. But Henry's face was all eagerness. He tore off a little hair from the piece of buffalo robe under his saddle and threw it up, to show the course of the wind. It blew directly before us. The game were therefore to windward, and it was necessary to make our best speed to get round them.

We scrambled from this ravine, and galloping away through the hollows, soon found another, winding like a snake among the hills, and so deep that it completely concealed us. We rode up the bottom of it, glancing through the shrubbery at its edge, till Henry abruptly jerked his rein and slid out of his saddle. Full a quarter of a mile distant, on the outline of the farthest hill, a long procession of buffalo were walking, in Indian file, with the utmost gravity and deliberation; then more appeared, clambering from a hollow not far off, and ascending, one behind the other,

the grassy slope of another hill; then a shaggy head and a pair of short, broken horns appeared issuing out of a ravine close at hand, and with a slow, stately step, one by one, the enormous brutes came into view, taking their way across the valley, wholly unconscious of an enemy. In a moment Henry was worming his way, lying flat on the ground, through grass and prickly-pears, toward his unsuspecting victims. He had with him both my rifle and his own. He was soon out of sight, and still the buffalo kept issuing into the valley. For a long time he was silent; I sat holding his horse, and wondering what he was about, when suddenly, in rapid succession, came the sharp reports of the two rifles, and the whole line of buffalo, quickening their pace into a clumsy trot, gradually disappeared over the ridge of the hill. Henry rose to his feet and stood looking after them.

"You have missed them," said I.

"Yes," said Henry; "let us go." He descended into the ravine, loaded the rifles and mounted his horse.

We rode up the hill after the buffalo. The herd was out of sight when we reached the top, but lying on the grass, not far off, was one quite lifeless, and another violently struggling in the death agony.

"You see, I miss him!" remarked Henry. He had fired from a distance of more than a hundred and fifty yards, and both balls had passed through the lungs—the true mark in shooting buffalo.

The darkness increased, and a driving storm came on. Tying our horses to the horns of the victims Henry began the bloody work of dissection, slashing away with the science of a connoisseur, while I vainly endeavored to imitate him. Old Hendrick recoiled with horror and indignation when I endeavored to tie the meat to the strings of rawhide, always carried for this purpose, dangling at the back of the saddle. After some difficulty we overcame his scruples, and heavily burdened with the more eligible portions of the buffalo we set out on our return. Scarcely had we emerged from the labyrinth of gorges and ravines, and issued upon

the open prairie, when the pricking sleet came driving, gust upon gust, directly in our faces. It was strangely dark, though wanting still an hour of sunset. The freezing storm soon penetrated to the skin, but the uneasy trot of our heavy-gaited horses kept us warm enough, as we forced them unwillingly in the teeth of the sleet and rain by the powerful suasion of our Indian whips. The prairie in this place was hard and level. A flourishing colony of prairie dogs had burrowed into it in every direction, and the little mounds of fresh earth around their holes were about as numerous as the hills in a cornfield; but not a yelp was to be heard; not the nose of a single citizen was visible; all had retired to the depths of their burrows, and we envied them their dry and comfortable habitations. An hour's hard riding showed us our tent dimly looming through the storm, one side puffed out by the force of the wind, and the other collapsed in proportion, while the disconsolate horses stood shivering close around, and the wind kept up a dismal whistling in the boughs of three old half-dead trees above. Shaw, like a patriarch, sat on his saddle in the entrance, with a pipe in his mouth, and his arms folded, contemplating, with cool satisfaction, the piles of meat that we flung on the ground before him. A dark and dreary night succeeded; but the sun rose with a heat so sultry and languid that the captain excused himself on that account from waylaying an old buffalo bull, who with stupid gravity was walking over the prairie to drink at the river. So much for the climate of the Platte!

But it was not the weather alone that had produced this sudden abatement of the sportsmanlike zeal which the captain had always professed. He had been out on the afternoon before, together with several members of his party; but their hunting was attended with no other result than the loss of one of their best horses, severely injured by Sorel, in vainly chasing a wounded bull. The captain, whose ideas of hard riding were all derived from transatlantic sources, expressed the utmost amazement at the feats of Sorel, who went leaping ravines, and dashing at full speed

up and down the sides of precipitous hills, lashing his horse with the recklessness of a Rocky Mountain rider. Unfortunately for the poor animal he was the property of R., against whom Sorel entertained an unbounded aversion. The captain himself, it seemed, had also attempted to "run" a buffalo, but though a good and practised horseman he had soon given over the attempt, being astonished and utterly disgusted at the nature of the ground he was required to ride over.

Nothing unusual occurred on that day; but on the following morning Henry Chatillon, looking over the ocean-like expanse, saw near the foot of the distant hills something that looked like a band of buffalo. He was not sure, he said, but at all events, if they were buffalo, there was a fine chance for a race. Shaw and I at once determined to try the speed of our horses.

"Come, captain; we'll see which can ride hardest, a Yankee or an Irishman."

But the captain maintained a grave and austere countenance. He mounted his led horse, however, though very slowly; and we set out at a trot. The game appeared about three miles' distant. As we proceeded the captain made various remarks of doubt and indecision; and at length declared he would have nothing to do with such a breakneck business; protesting that he had ridden plenty of steeplechases in his day, but he never knew what riding was till he found himself behind a band of buffalo day before yesterday. "I am convinced," said the captain, "that 'running' is out of the question. Take my advice now and don't attempt it. It's dangerous, and of no use at all."

"Then why did you come out with us? What do you mean to do?"

"I shall 'approach,'" replied the captain.

"You don't mean to 'approach' with your pistols, do you? We have all of us left our rifles in the wagons."

The captain seemed staggered at the suggestion. In his characteristic indecision, at setting out, pistols, rifles, "running" and "approaching" were mingled in an inex-

tricable medley in his brain. He trotted on in silence between us for a while; but at length he dropped behind, and slowly walked his horse back to rejoin the party. Shaw and I kept on; when lo! as we advanced, the band of buffalo were transformed into certain clumps of tall bushes, dotting the prairie for a considerable distance. At this ludicrous termination of our chase we followed the example of our late ally, and turned back toward the party. . . .

We encamped that night upon the bank of the river. Among the emigrants there was an overgrown boy, some eighteen years old, with a head as round and about as large as a pumpkin, and fever-and-ague fits had dyed his face of a corresponding color. He wore an old white hat, tied under his chin with a handkerchief; his body was short and stout, but his legs of disproportioned and appalling length. I observed him at sunset, breasting the hill with gigantic strides, and standing against the sky on the summit like a colossal pair of tongs. In a moment after we heard him screaming frantically behind the ridge, and nothing doubting that he was in the clutches of Indians or grizzly bears, some of the party caught up their rifles and ran to the rescue. His outcries, however, proved but an ebullition of joyous excitement; he had chased two little wolf pups to their burrow, and he was on his knees, grubbing away like a dog at the mouth of the hole, to get at them.

Before morning he caused more serious disquiet in the camp. It was his turn to hold the middle guard; but no sooner was he called up than he coolly arranged a pair of saddle-bags under a wagon, laid his head upon them, closed his eyes, opened his mouth, and fell asleep. The guard on our side of the camp, thinking it no part of his duty to look after the cattle of the emigrants, contented himself with watching our own horses and mules; the wolves, he said, were unusually noisy; but still no mischief was anticipated until the sun rose, and not a hoof or horn was in sight! The cattle were gone! While Tom was quietly slumbering the wolves had driven them away.

Then we reaped the fruits of R.'s precious plan of trav-

eling in company with emigrants. To leave them in their distress was not to be thought of, and we felt bound to wait until the cattle could be searched for, and, if possible, recovered. But the reader may be curious to know what punishment awaited the faithless Tom. By the wholesome law of the prairie he who falls asleep on guard is condemned to walk all day, leading his horse by the bridle, and we found much fault with our companions for not enforcing such a sentence on the offender. Nevertheless, had he been of our own party, I have no doubt he would in like manner have escaped scot-free. But the emigrants went farther than mere forbearance; they decreed that since Tom couldn't stand guard without falling asleep, he shouldn't stand guard at all, and henceforward his slumbers were unbroken. Establishing such a premium on drowsiness could have no very beneficial effect upon the vigilance of our sentinels; for it is far from agreeable, after riding from sunrise to sunset, to feel your slumbers interrupted by the butt of a rifle nudging your side, and a sleepy voice growling in your ear that you must get up, to shiver and freeze for three weary hours at midnight.

"Buffalo! buffalo!" It was but a grim old bull, roaming the prairie by himself in misanthropic seclusion; but there might be more behind the hills. Dreading the monotony and languor of the camp, Shaw and I saddled our horses, buckled our holsters in their places, and set out with Henry Chatillon in search of the game. Henry, not intending to take part in the chase, but merely conducting us, carried his rifle with him, while we left ours behind as incumbrances. We rode for some five or six miles, and saw no living thing but wolves, snakes, and prairie dogs.

"This won't do at all," said Shaw.

"What won't do?"

"There's no wood about here to make a litter for the wounded man; I have an idea that one of us will need something of the sort before the day is over."

There was some foundation for such an apprehension, for the ground was none of the best for a race, and grew

worse continually as we proceeded; indeed it soon became desperately bad, consisting of abrupt hills and deep hollows, cut by frequent ravines not easy to pass. At length, a mile in advance, we saw a band of bulls. Some were scattered grazing over a green declivity, while the rest were crowded more densely together in the wide hollow below. Making a circuit to keep out of sight we rode toward them until we ascended a hill within a furlong of them, beyond which nothing intervened that could possibly screen us from their view. We dismounted behind the ridge just out of sight, drew our saddle-girths, examined our pistols, and mounting again rode over the hill, and descended at a canter toward them, bending close to our horses' necks. Instantly they took the alarm; those on the hill descended; those below gathered into a mass and the whole got in motion, shouldering each other along at a clumsy gallop. We followed, spurring our horses to full speed; and as the herd rushed, crowding and trampling in terror through an opening in the hills, we were close at their heels, half-suffocated by the clouds of dust. But as we drew near, their alarm and speed increased; our horses showed signs of the utmost fear, bounding violently aside as we approached, and refusing to enter among the herd. The buffalo now broke into several small bodies, scampering over the hills in different directions, and I lost sight of Shaw; neither of us knew where the other had gone. Old Pontiac ran like a frantic elephant up-hill and down-hill, his ponderous hoofs striking the prairie like sledge-hammers. He showed a curious mixture of eagerness and terror, straining to overtake the panic-stricken herd, but constantly recoiling in dismay as we drew near. The fugitives, indeed, offered no very attractive spectacle, with their enormous size and weight, their shaggy manes and the tattered remnants of their last winter's hair covering their backs in irregular shreds and patches, and flying off in the wind as they ran. At length I urged my horse close behind a bull, and after trying in vain, by blows and spurring, to bring him alongside, I shot a bullet into the buffalo from this disadvantageous position. At the re-

port Pontiac swerved so much that I was again thrown a little behind the game. The bullet, entering too much in the rear, failed to disable the bull, for a buffalo requires to be shot at particular points, or he will certainly escape. The herd ran up a hill, and I followed in pursuit. As Pontiac rushed headlong down on the other side, I saw Shaw and Henry descending the hollow on the right at a leisurely gallop; and in front, the buffalo were just disappearing behind the crest of the next hill, their short tails erect, and their hoofs twinkling through a cloud of dust.

At that moment I heard Shaw and Henry shouting to me; but the muscles of a stronger arm than mine could not have checked at once the furious course of Pontiac, whose mouth was as insensible as leather. Added to this, I rode him that morning with a common snaffle, having the day before, for the benefit of my other horse, unbuckled from my bridle the curb which I ordinarily used. A stronger and hardier brute never trod the prairie; but the novel sight of the buffalo filled him with terror, and when at full speed he was almost uncontrollable. Gaining the top of the ridge, I saw nothing of the buffalo; they had all vanished amid the intricacies of the hills and hollows. Reloading my pistols, in the best way I could, I galloped on until I saw them again scuttling along at the base of the hill, their panic somewhat abated. Down went old Pontiac among them, scattering them to the right and left, and then we had another long chase. About a dozen bulls were before us, scouring over the hills, rushing down the declivities with tremendous weight and impetuosity, and then laboring with a weary gallop upward. Still Pontiac, in spite of spurring and beating, would not close with them. One bull at length fell a little behind the rest, and by dint of much effort I urged my horse within six or eight yards of his side. His back was darkened with sweat; he was panting heavily, while his tongue lolled out a foot from his jaws. Gradually I came up abreast of him, urging Pontiac with leg and rein nearer to his side, when suddenly he did what buffalo in such circumstances will always do; he slackened his gallop,

and turning toward us, with an aspect of mingled rage and distress, lowered his huge shaggy head for a charge. Pontiac, with a snort, leaped aside in terror, nearly throwing me to the ground, as I was wholly unprepared for such an evolution. I raised my pistol in a passion to strike him on the head, but thinking better of it, fired the bullet after the bull, who had resumed his flight, then drew rein and determined to rejoin my companions. It was high time. The breath blew hard from Pontiac's nostrils, and the sweat rolled in big drops down his sides; I myself felt as if drenched in warm water. Pledging myself (and I redeemed the pledge) to take my revenge at a future opportunity, I looked round for some indications to show me where I was, and what course I ought to pursue; I might as well have looked for landmarks in the midst of the ocean. How many miles I had run, or in what direction, I had no idea; and around me the prairie was rolling in steep swells and pitches, without a single distinctive feature to guide me. I had a little compass hung at my neck; and ignorant that the Platte at this point diverged considerably from its easterly course, I thought that by keeping to the northward I should certainly reach it. So I turned and rode about two hours in that direction. The prairie changed as I advanced, softening away into easier undulations, but nothing like the Platte appeared, nor any sign of a human being; the same wild, endless expanse lay around me still, and to all appearance I was as far from my object as ever. I began now to consider myself in danger of being lost, and therefore, reining in my horse, summoned the scanty share of woodcraft that I possessed (if that term be applicable upon the prairie) to extricate me. Looking round, it occurred to me that the buffalo might prove my best guides. I soon found one of the paths made by them in their passage to the river; it ran nearly at right angles to my course; but turning my horse's head in the direction it indicated, his freer gait and erected ears assured me that I was right.

But in the meantime my ride had been by no means a solitary one. The whole face of the country was dotted far

and wide with countless hundreds of buffalo. They trooped along in files and columns—bulls, cows, and calves—on the green faces of the declivities in front. They scrambled away over the hills to the right and left; and far off, the pale blue swells in the extreme distance were dotted with innumerable specks. Sometimes I surprised shaggy old bulls grazing alone, or sleeping behind the ridges I ascended. They would leap up at my approach, stare stupidly at me through their tangled manes, and then gallop heavily away. The antelope were very numerous; and as they are always bold when in the neighborhood of buffalo, they would approach quite near to look at me, gazing intently with their great round eyes, then suddenly leap aside, and stretch lightly away over the prairie, as swiftly as a racehorse. Squalid, ruffian-like wolves sneaked through the hollows and sandy ravines. Several times I passed through villages of prairie dogs, who sat, each at the mouth of his burrow, holding his paws before him in a supplicating attitude, and yelping away most vehemently, energetically whisking his little tail with every squeaking cry he uttered. Prairie dogs are not fastidious in their choice of companions; various long, checkered snakes were sunning themselves in the midst of the village, and demure little gray owls, with a large white ring around each eye, were perched side by side with the rightful inhabitants. The prairie teemed with life. Again and again I looked toward the crowded hillsides, and was sure I saw horsemen; and riding near, with a mixture of hope and dread, for Indians were abroad, I found them transformed into a group of buffalo. There was nothing in human shape amid all this vast congregation of brute forms.

When I turned down the buffalo path the prairie seemed changed; only a wolf or two glided past at intervals, like conscious felons, never looking to the right or left. Being now free from anxiety I was at leisure to observe minutely the objects around me; and here, for the first time, I noticed insects wholly different from any of the varieties found farther to the eastward. Gaudy butterflies fluttered about my horse's head; strangely formed beetles, glittering with met-

allic lustre, were crawling upon plants that I had never seen before; multitudes of lizards, too, were darting like lightning over the sand.

I had run to a great distance from the river. It cost me a long ride on the buffalo path before I saw from the ridge of a sand-hill the pale surface of the Platte glistening in the midst of its desert valleys, and the faint outline of the hills beyond waving along the sky. From where I stood not a tree nor a bush nor a living thing was visible throughout the whole extent of the sun-scorched landscape. In half an hour I came upon the trail, not far from the river; and seeing that the party had not yet passed, I turned eastward to meet them, old Pontiac's long, swinging trot again assuring me that I was right in doing so. Having been slightly ill on leaving camp in the morning, six or seven hours of rough riding had fatigued me extremely. I soon stopped, therefore, flung my saddle on the ground, and with my head resting on it, and my horse's trail-rope tied loosely to my arm, lay waiting the arrival of the party, speculating meanwhile on the extent of the injuries Pontiac had received. At length the white wagon-coverings rose from the verge of the plain. By a singular coincidence, almost at the same moment two horsemen appeared coming down from the hills. They were Shaw and Henry, who had searched for me awhile in the morning, but well knowing the futility of the attempt in such a broken country, had placed themselves on the top of the highest hill they could find, and picketing their horses near them, as a signal to me, had laid down and fallen asleep. The stray cattle had been recovered, as the emigrants told us, about noon. Before sunset we pushed forward eight miles farther.

"JUNE 7, 1846.—Four men are missing; R., Sorel, and two emigrants. They set out this morning after buffalo, and have not yet made their appearance; whether killed or lost, we cannot tell."

I find the above in my note-book, and well remember the council held on the occasion. Our fire was the scene of it;

for the palpable superiority of Henry Chatillon's experience and skill made him the resort of the whole camp upon every question of difficulty. He was molding bullets at the fire when the captain drew near, with a perturbed and careworn expression of countenance, faithfully reflected on the heavy features of Jack, who followed close behind. Then emigrants came straggling from their wagons toward the common center; various suggestions were made to account for the absence of the four men, and one or two of the emigrants declared that when out after the cattle they had seen Indians dogging them, and crawling like wolves along the ridges of the hills. At this the captain slowly shook his head with double gravity, and solemnly remarked:

"It's a serious thing to be traveling through this cursed wilderness"; an opinion in which Jack immediately expressed a thorough coincidence. Henry would not commit himself by declaring any positive opinion:

"Maybe he only follow the buffalo too far; maybe Indian kill him; maybe he got lost; I cannot tell!"

With this the auditors were obliged to rest content; the emigrants, not in the least alarmed, though curious to know what had become of their comrades, walked back to their wagons, and the captain betook himself pensively to his tent. Shaw and I followed his example.

AMERICA

In the Rocky Mountains

By JOHN C. FREMONT

LEAVING camp about 11 o'clock, on August 25, we traveled a short distance down the river, and halted to noon on the bank, at a point where the road quits the valley of Bear River, and, crossing a ridge which divides the Great Basin from the Pacific waters, reaches Fort Hall, by way of the Portneuf River, in a distance of probably fifty miles, or two and a half days' journey for wagons. An examination of the great lake which is the outlet of the river, and the principal feature of geographical interest in the basin, was one of the main objects contemplated in the general plan of our survey, and I accordingly determined at this place to leave the road, and, after having completed a reconnaissance of the lake, regain it subsequently at Fort Hall. But our little stock of provisions had again become extremely low; we had only dried meat sufficient for one meal, and our supply of flour and other comforts was entirely exhausted. I therefore immediately dispatched one of the party, Henry Lee, with a note to Carson, at Fort Hall, directing him to load a pack-horse with whatever could be obtained there in the way of provisions, and endeavor to overtake me on the river. In the meantime we had picked up along the road two tolerably well-grown calves, which would have become food for wolves, and which had probably been left by some of the earlier emigrants, none of those

we had met having made any claim to them; and on these I mainly relied for support during our circuit to the lake.

In sweeping around the point of the mountain which runs down into the bend, the river here passes between perpendicular walls of basalt, which always fix the attention, from the regular form in which it occurs, and its perfect distinctness from the surrounding rocks among which it has been placed. The mountain, which is rugged and steep, and, by our measurement, 1400 feet above the river directly opposite the place of our halt, is called the Sheep Rock—probably because a flock of the common mountain sheep (*ovis montana*) had been seen on the craggy point.

As we were about resuming our march in the afternoon I was attracted by the singular appearance of an isolated hill with a concave summit, in the plain, about two miles from the river, and turned off toward it, while the camp proceeded on its way to the southward in search of the lake. I found the thin and stony soil of the plain entirely underlaid by the basalt which forms the river walls; and when I reached the neighborhood of the hill the surface of the plain was rent into frequent fissures and chasms of the same scoriated volcanic rock, from forty to sixty feet deep, but which there was not sufficient light to penetrate entirely, and which I had not time to descend. Arrived at the summit of the hill I found that it terminated in a very perfect crater, of an oval, or nearly circular form, three hundred and sixty paces in circumference, and sixty feet at the greatest depth. The walls, which were perfectly vertical, and disposed like masonry in a very regular manner, were composed of a brown-colored scoriaceous lava, evidently the production of a modern volcano, and having all the appearance of the lighter scoriaceous lavas of Mount Ætna, Vesuvius, and other volcanoes. The faces of the walls were reddened and glazed by the fire in which they had been melted, and which had left them contorted and twisted by its violent action.

Our route during the afternoon was a little rough, being (in the direction we had taken) over a volcanic plain, where

MOUNT CORCORAN

our progress was sometimes obstructed by fissures, and black beds composed of fragments of the rock. On both sides the mountains appeared very broken, but tolerably well timbered.

August 26.—Crossing a point of ridge which makes into the river, we fell upon it again before sunset, and encamped on the right bank opposite to the encampment of three lodges of Snake Indians. They visited us during the evening and we obtained from them a small quantity of roots of different kinds in exchange for goods. Among them was a sweet root of very pleasant flavor having somewhat the taste of preserved quince. My endeavors to become acquainted with the plants which furnish to the Indians a portion of their support were only gradually successful, and after long and persevering attention; and even after obtaining I did not succeed in preserving them until they could be satisfactorily determined. In this portion of the journey I found this particular root cut up into such small pieces that it was only to be identified by its taste, when the bulb was met with in perfect form among the Indians lower down on the Columbia, among whom it is the highly celebrated kamas. It was long afterward, on our return through Upper California, that I found the plant itself in bloom, which I supposed to furnish the kamas root (*camassia esculenta*). The root diet had a rather mournful effect at the commencement, and one of the calves was killed this evening for food. The animals fared well on rushes.

August 27.—The morning was cloudy, with appearance of rain, and the thermometer at sunrise at 29°. Making an unusually early start we crossed the river at a good ford; and following for about three hours a trail which led along the bottom we entered a labyrinth of hills below the main ridge, and halted to noon in the ravine of a pretty little stream timbered with cotton-wood of a large size, ash-leaved maple, with cherry and other shrubby trees. The hazy weather which had prevented any very extended views since entering the Green River Valley, began now to disappear. There was a slight rain in the earlier part of the day and at

noon, when the thermometer had risen to 79.5°, we had a bright sun, with blue sky and scattered cumuli. According to the barometer our halt here among the hills was at an elevation of 5320 feet. Crossing a dividing ridge in the afternoon we followed down another little Bear River tributary to the point where it emerged on an open green flat among the hills, timbered with groves, and bordered with cane thickets, but without water. A pretty little rivulet, coming out of the hillside, and overhung by tall, flowering plants of a species I had not hitherto seen, furnished us with a good camping-place. The evening was cloudy, the temperature at sunset 69°, and the elevation 5140 feet. Among the plants occurring along the line of road during the day *épinettes des prairies* (*grindelia squarrosa*) was in considerable abundance, and is among the very few plants remaining in bloom—the whole country having now an autumnal appearance, in the crisped and yellow plants, and dried-up grasses. Many cranes were seen during the day, with a few antelopes, very shy and wild.

August 28.—During the night we had a thunder-storm, with moderate rain, which has made the air this morning very clear, the thermometer being at 55°. Leaving our encampment at the Cane spring, and quitting the trail on which we had been traveling, and which would probably have afforded us a good road to the lake, we crossed some very deep ravines, and, in about an hour's traveling, again reached the river. We were now in a valley five or six miles wide, between mountain ranges, which, about thirty miles below, appeared to close up and terminate the valley, leaving for the river only a very narrow pass, or cañon, behind which we imagined that we should find the broad waters of the lake. We made the usual halt at the mouth of a small, clear stream, having a slightly mineral taste (perhaps of salt), 4760 feet above the Gulf. In the afternoon we climbed a very steep sandy hill; and, after a slow and winding day's march of twenty-seven miles, encamped at a slough on the river. There were great quantities of geese and ducks, of which only a few were shot; the Indians hav-

ing probably made them very wild. The men employed themselves in fishing, but caught nothing. A skunk (*mephitis Americana*), which was killed in the afternoon, made a supper for one of the messes. The river is bordered occasionally with fields of cane, which were regarded as an indication of our approach to a lake country. We had frequent showers of rain during the night, with thunder.

August 29.—The thermometer at sunrise was 54°, with air from the N. W., and dark rainy clouds moving on the horizon; rain squalls and bright sunshine by intervals. I rode ahead with Basil to explore the country, and, continuing about three miles along the river, turned directly off on a trail running toward three marked gaps in the bordering range, where the mountains appeared cut through to their bases, toward which the river plain rose gradually. Putting our horses into a gallop on some fresh tracks which showed very plainly in the wet path, we came suddenly upon a small party of Shoshonee Indians, who had fallen into the trail from the north. We could only communicate by signs; but they made us understand that the road through the chain was a very excellent one leading into a broad valley which ran to the southward. We halted to noon at what may be called the gate of the pass; on either side of which were huge mountains of rock, between which stole a little pure water-stream, with a margin just sufficiently large for our passage. From the river the plain had gradually risen to an altitude of 5500 feet, and, by meridian observation, the latitude of the entrance was 42°.

In the interval of our usual halt several of us wandered along up the stream to examine the pass more at leisure. Within the gate the rocks receded a little back, leaving a very narrow, but most beautiful valley, through which the little stream wound its way, hidden by different kinds of trees and shrubs—aspen, maple, willow, cherry, and elder; a fine verdure of smooth short grass spread over the remaining space to the bare sides of the rocky walls. These were of a blue limestone, which constitutes the mountain here; and opening directly on the grassy bottom were several curi-

ous caves, which appeared to be inhabited by root-diggers. On one side was gathered a heap of leaves for a bed, and they were dry, open, and pleasant. On the roofs of the caves I remarked bituminous exudations from the rock. . . .

The most remarkable feature of the pass is the Standing Rock, which has fallen from the cliffs above, and standing perpendicularly near the middle of the valley, presents itself like a watch-tower in the pass. It will give you a tolerably correct idea of the character of the scenery in this country, where generally the mountains rise abruptly up from comparatively unbroken plains and level valleys; but it will entirely fail in representing the picturesque beauty of this delightful place, where a green valley, full of foliage, and a hundred yards wide, contrasts with naked crags that spire up into a blue line of pinnacles 3000 feet above, sometimes crested with cedar and pine, and sometimes ragged and bare.

The detention we met with in opening the road, and perhaps a willingness to linger on the way, made the afternoon's travel short, and about two miles from the entrance we passed through another gate, and encamped on the stream at the junction of a little fork from the southward, around which the mountains stooped more gently down, forming a small open cove.

As it was still early in the afternoon, Basil and myself in one direction, and Mr. Preuss in another, set out to explore the country, and ascended different neighboring peaks, in the hope of seeing some indications of the lake; but though our elevation afforded magnificent views, the eye ranging over a long extent of Bear River, with the broad and fertile Cache valley in the direction of our search, was only to be seen a bed of apparently impracticable mountains. Among these the trail we had been following turned sharply to the northward, and it began to be doubtful if it would not lead us away from the object of our destination; but I nevertheless determined to keep it, in the belief that it would eventually bring us right. A squall of rain drove us out of the mountain, and it was late when we reached the camp. The

evening closed in with frequent showers of rain, with some lightning and thunder.

August 30.—We had constant thunder-storms during the night, but in the morning the clouds were sinking to the horizon, and the air was clear and cold, with the thermometer at sunrise at 39°. Elevation by barometer 5580 feet. We were in motion early, continuing up the little stream without encountering any ascent where a horse would not easily gallop, and, crossing a slight dividing ground at the summit, descended upon a small stream, along which we continued on the same excellent road. In riding through the pass numerous cranes were seen; and prairie hens, or grouse (*bonasia umbellus*), which lately had been rare, were very abundant.

This little affluent brought us to a larger stream, down which we traveled through a more open bottom, on a level road, where heavily laden wagons could pass without obstacle. The hills on the right grew lower, and, on entering a more open country, we discovered a Shoshonee village; and being desirous to obtain information, and purchase from them some roots and berries, we halted on the river, which was lightly wooded with cherry, willow, maple, service berry, and aspen. The barometer indicated a height of 5170 feet. A number of Indians came immediately over to visit us, and several men were sent to the village with goods, tobacco, knives, cloth, vermilion, and the usual trinkets, to exchange for provisions. Several of the Indians drew aside their blankets, showing me their lean and bony figures; and I would not any longer tempt them with a display of our merchandise to part with their wretched subsistence, when they gave as a reason that it would expose them to temporary starvation. A great portion of the region inhabited by this nation formerly abounded in game; the buffalo ranging about in herds, as we had found them on the eastern waters, and the plains dotted with scattered bands of antelope; but so rapidly have they disappeared within a few years that now, as we journeyed along, an occasional buffalo skull and a few wild antelope were all that remained of the abundance which had covered the country with animal life.

AMERICA

Polar Research

By GEORG GERLAND

LEAVING out of view the commercial enterprises of the ancient inhabitants of the Iberian Peninsula and the voyages of the primitive Celtic people of Britain, the earliest explorer of the north was a younger contemporary of Alexander the Great, Pytheas of Marsilia, who braved the perils of that region, impelled by purely scientific motives. He returned with abundant results, but was not understood by the people of his time, and more than 2000 years elapsed before men sailed north again in scientific inquiry. It is true that many voyages were made to the north during the Middle Ages. The Northmen during that period founded colonies in Greenland, in the farthest north, as their countrymen settled in the fair southern regions of Apulia and Sicily; but both sets of settlements failed to be of permanent establishment. The voyage of the Venetian Zeno to the Farö Islands in 1390 was without historical significance, and the voyage of Christopher Columbus beyond Iceland in 1477 is mythical.

At the close of the Middle Ages, when the deficiency of knowledge of the earth was great, avarice and the quest for the goods of the south led men into the northern ice; they sought to reach India by the shortest possible routes, where they would not meet rivals and enemies. This was the object of Magellan's circumnavigation. The *Ceterum Censeo* of James Lancaster asserted that the way to India was north,

around America. India was the object of the polar navigators—Cabot in the fifteenth, Frobisher and Davis in the sixteenth, and Hudson and Baffin in the seventeenth centuries, to name only a few of the most famous. It is astonishing what these daring British and Dutch sailors risked, suffered, and gained.

In the seventeenth century appeared such men as Kepler, Cassini, Newton, and Boyle. The shape of the earth was actively discussed, improved maps were made, and new aims and motives were conceived, the development of which has caused the nineteenth century to be so sharply distinguished from its predecessors. Now knowledge of the earth is sought for itself, and in this respect the polar research of the present has all at once assumed another aspect, under which it is differentiated from that of the past. Northwestern and northeastern passages have been sought in our days, but not in order to reach India. When Maclure achieved the former in 1852 and Nordenskjöld the latter in 1879, the value attached to the discoveries was not that they furnished routes, but that a correct knowledge of the northern coasts of the two continents and rich stores of other scientific information had been gained by them. Fruits like those, no longer the interests of trade, justified the high prizes which the English Government offered for the discovery of the passage, and the costly expeditions which were dispatched for that purpose. The early trade routes became highways for scientfic investigation, and the nature of the polar regions as a whole was inquired into. Such objects were pursued by individuals. Scoresby, while hunting for whales, made constant studies of the highest scientific value of the hydrography, magnetism, and meteorology of the arctic regions; and so did Karl Ludwig Gieseke, afterward Professor of Mineralogy at Dublin, who traveled through East and West Greenland from 1807 to 1813 solely for the thorough study of the geology of their coasts.

Till 1860 the English, and afterward the Americans with them, were in the front as polar explorers. The most important results of their work were the discovery of the

magnetic pole in 1831 by John and James Ross, the definition of the coast of arctic America, and numerous single observations. More recently other nations have come forward —the Danes in Greenland, and the Swedes, whose most illustrious representative is Nordenskjöld. Two German expeditions have been sent to East Greenland, an Austrian expedition under Weyprecht and Preyer has discovered Franz-Joseph Land, the Dutch have explored south of Spitzbergen, the Russians on the northern coast of Siberia, and now with Nansen and Mohn the Norwegians have advanced to the very front. In 1882-83, at the instance of the German Neumayer and the Austrian Weyprecht, a chain of observation stations was established around the pole, to be kept up for a year—an enterprise in which Germany, England, the United States, Russia, Austria, France, Sweden, Norway, and Finland took part. The year 1883 was further marked by Nordenskjöld's return from the inland ice of Greenland, and by Nansen's conception of his scheme for traversing Greenland on snowshoes, which he carried into effect the next year. North polar research is therefore almost exclusively the work of the Germanic nations, for the Russian explorers have been chiefly of that stock. The Romanic nations, no less seafaring people, have kept away from the north pole; but France has done something in south-polar exploration.

The south pole has been comparatively neglected on account of the unfavorable character of its surroundings. Large masses of land are wanting, and the immense wastes of water of the South offer only a few islands possessing neither large mammals nor human inhabitants; while the Eskimos of the North are of incalculable advantage to exploration. Magellan's southern voyage was not followed up for two hundred and fifty years. The first after him to reach high southern latitudes was James Cook, in 1774, and no other similar expeditions followed for fifty years more. Those best known were those of the French under Dumont d'Urville in 1839, of the Americans under Wilkes, and of the English under James Ross, who in 1842 penetrated to

the seventy-eighth degree, the highest southern latitude yet attained. After a year's maintenance of a German station on the South Georgian Islands and of a French station at the southern point of America, both of which belonged to the international system of 1883, and after a few dashes southward in later years, a number of nations—Germany, Austria, England, the United States, and others—are again preparing to cooperate in another polar siege at the austral end of the world for the benefit of science.

Nowhere are more questions to be found for which to seek answers than in the polar regions. Here the magneto-electric light of the earth manifests itself in the wonderful phenomenon of the northern lights. All the wind currents of the earth press toward the pole, and the sea currents too. Curious dispositions of Nature are found here, with great volcanoes, the outer cones of which are constituted of strata of ice covered with lava, and under the masses of ice we discover remains of plants that demonstrate the presence not so very long ago of a flourishing tropical or subtropical vegetation instead of the present ice. We meet mountains of ice everywhere, and everywhere the arctic region is sublime.

There is thus much to observe and much to learn in these regions for the satisfaction of our irresistible longings. First, we are able to study in the polar regions the division of land and sea, the size, elevation, and topography of the land—the whole question, in short, of polar geography. The form of the earth's surface is not casual, but is the result of interactions of the crust and the interior of the globe. The discovery by Nansen's expedition of the profundity of the polar sea tallies with Prof. Mohn's observations of the great depths between Greenland and Spitzbergen and with those of the fiords and interinsular channels of the North Atlantic. Further, the sea bottoms are penetrated by volcanoes, some of them still active—here single, as in Jan Mayen Island, there in groups, as in Franz-Joseph Land and Fire Island. A marked difference exists in this respect between the Atlantic half of the polar regions north of Europe

and eastern North America, where disturbance and divisions of the land are the rule, and the Pacific side, north of Siberia and western America, where quiet prevails, with regular coast forms and few islands. The lands on the Atlantic side have, moreover, been gradually rising for an incalculable length of time, and are still rising, while those on the opposite side have, until very recently, been subsiding. These facts, selected as examples from a great number of phenomena, may serve to illustrate how important is a knowledge of the polar regions to that of the earth as a whole. Its importance is, in fact, quite beyond comprehension.

So the magnetism of the earth, the colored beams of the northern lights, the flickering of their draperies and bands, are of interest far beyond their relations to the earth alone; for the movement of the magnetic elements reflects the processes of the sun's atmosphere, and may be connected with the immense periods of the revolution of our solar system.

A relation between the northern lights and the weather has been established by repeated observations, and that brings us to another group of phenomena, those of meteorology, which are of interest to the whole earth, and are especially remarkable in the polar regions. An interchange of great wind currents between the equator and the poles is constantly going on, upon which the movements of the atmosphere and the pressure in the intermediate regions are ultimately dependent, and the study of the atmospheric phenomena of the polar regions is indispensable to our proper knowledge of them.

The excess of heat at the equator forces masses of air into the highest regions of the atmosphere; the congestion at the pole, the necessary consequence of accumulation there, forces them back to the earth. On their way through the higher regions these masses are attenuated and cooled, so that, even when condensed at their sinking, they cannot overcome the polar cold; and as they bring little moisture, and consequently little cloudiness, the radiation of heat goes on continuously during the long polar night; the more so because snow and ice are extremely good radiators. Hence

From a Drawing by George T. Tobin.

ESQUIMAUX BOYS.

the extreme cold which Nansen found in Greenland, and which makes that interior a second pole of cold along with that in the interior of Siberia, is fully explained.

Yet the winds contribute to the warming of the polar sea. They drive the waters from warmer regions in wide superficial currents into the higher latitudes, where, being heavier in consequence of their greater content of salt than the fresher water resulting from the melting of the glaciers and the ice, and from the outpour of the great Siberian rivers, they sink beneath them to the bottom and keep the temperature of the sea constantly above the freezing-point. The colder, lighter water has to give way to these undersea currents, and flows into the Atlantic Ocean, cooling the American coasts. At the south pole currents flow in from all the seas, and superficial waters spread into all the oceans.

How shall we account for the masses of polar ice, for the immense icebergs, and the glaciation of Greenland? The snowfall of the polar regions is light. The air is nowhere dryer than over the cold glacier ice, as is proved every day in Switzerland by the quickness with which clothes dry when hung over it. At the same time the ice is covered with extremely fine, hardly visible snow crystals. If we boil water in a retort which is connected with another vessel containing a piece of ice, all the steam will pass over on to the ice and deposit itself as ice upon it. The same takes place in a larger degree on the earth, where the retort is the warm evaporating water of the tropical regions, the connecting-pipe is the upper atmosphere, and the thickening ice is at the pole. Thus, without any rain or snow falling, all the moisture and all the vapor is withdrawn from the atmosphere by this ice and deposited upon it in fine crystals; and as the influx of air is constant and all-pervading, a never-ceasing supply of frost is going on all the time. In consequence of the larger quantity of moisture, the process is still more marked and regular at the south pole. The explanation of the glaciation of the northern part of our temperate zone during the ice age, still unfound, is a matter of great importance, for the present topography of the land was brought

out and the organic life of the whole earth was modified by it; and it is the general opinion that the solution of the problem is to be found, if it is found, by the study of the polar regions.

In the period immediately preceding the ice age the polar regions were not covered with ice, but had a rich growth of plants, reaching up even to the glaciers of their mountains, and plants were represented in them which are now known only in warmer countries. This was a very noteworthy time in the history of the earth. Organic life, in the continents at least, was in its greatest extension, and, I believe, specificism and diversity. The forests also were more luxuriant than now. And this was the time when man originated. Upon this came the ice age, during which man was scattered over the whole world, and organic beings were divided, according to their capacity to resist the cold, into the three great classes of arctic, temperate, and tropical life—a division which probably existed too during the earlier period, but then only locally, as on mountain ranges. The study of the organic life of the poles is therefore of the greatest importance for the understanding of the history of the organic life of our planet; and the more so because the arctic region has always been an important station for the distribution of organisms. The plants and animals of the south polar lands, on the contrary, and of the pointed southern continental terminations have never shown any permanent community with one another. This peculiar feature of the southern continents appeared very early.

Knowledge concerning the origin and spread of peoples may likewise receive valuable contributions from polar research. That is shown by the Eskimos and their wonderful adaptation to that nature which is so destructive to civilized peoples. In this we have a clear demonstration of the maxim which is one of the most important, if not the most important law of all organic and human life: that what is to be permanent can be brought about only by gradual, extremely slow formation; never by sudden, immediate transition, or by sharp, violent breach.

AMERICA

An Ancient Mexican Palace

By DESIRÉ CHARNAY

WE cleared away rubbish until we reached the floor, following the walls, corners, and openings of the various apartments, as we had done at Tula; and when, three days later, the engineer joined us, ten rooms, forming part of the house, had been unearthed. He was so surprised at our success that, stopping short, he exclaimed: "Why, it is our Tula palace over again!"

And so it was—inner court, apartments on different levels, everything as we had found before, save that here the rooms were much larger and most supported by pillars; one of these chambers measured forty-nine feet on one side, that is, seven hundred and thirty-two feet in circumference. The walls, nearly six feet seven inches thick, are built of stone and mortar, incrusted with deep cement, sloping up about three feet and terminating perpendicularly. The center of the room is occupied by six pillars, on which rose stone, brick, or wood columns bearing the roof.

This is undoubtedly a palace, and these are the reception-rooms; the sleeping apartments were behind; unfortunately they lie under cultivated ground covered with Indian corn, so we are not permitted to disturb them. In the large room we observed small stone rings fixed to the wall, and on each side of the entrance, also fixed to the wall, two small painted slabs. What had been their use? To support lights at night? But how was that possible? For even now the only lights the natives use are ocotes, pieces of

resinous wood, whilst the slabs bear no traces of smoke. I had, it is true, met in the course of my excavations with terra-cotta objects which might have been taken for candlesticks, but to which I had attached no importance, when I suddenly remembered a passage in Sahagun bearing on the subject: "The chandler who knows how to do his work first bleaches, cleans, and melts the wax, and when in a liquid state he pours it on a wick and rolls it between two slabs; he sometimes puts a layer of black wax within a white layer," etc. My first supposition had been right.

Here also the floors and walls are coated with mortar, stucco, or cement, save that in the dwellings of the rich, necessarily few, they are ornamented with figures, as principal subject, with a border like an Aubusson carpet. The colors are not all effaced, red, black, blue, yellow, and white, are still discernible; a few examples of these frescoes are to be seen in the Trocadéro. I am convinced that numerous treasures might be brought to light were regular excavations to be made, but the Mexican Government, which would have most interest in such a work, does not seem to care to undertake it.

Leaving my men under the direction of Colonel Castro, I return to the "Path of Death," composed of a great number of small mounds, Tlateles, the tombs of great men. They are arranged symmetrically in avenues terminating at the sides of the great pyramids, on a plain of some six hundred and twenty feet to nine hundred and seventy-five feet in length; fronting them are cemented steps, which must have been used as seats by the spectators during funeral ceremonies or public festivities. On the left, amidst a mass of ruins, are broken pillars, said to have belonged to a temple; the huge capitals have some traces of sculpture. Next comes a quadrangular block, of which a cast is to be found in the main gallery of the Trocadéro.

In the course of my excavations I had found now and again numerous pieces of worked obsidian, precious stones, beads, etc., within the circuit of ants' nests, which these busy insects had extracted from the ground in digging their

galleries; and now on the summit of the lesser pyramid I again came upon my friends, and among the things I picked out of their nests was a perfect earring of obsidian, very small, and as thin as a sheet of paper. It is not so curious as it seems at first, for we are disturbing a ground formed by fifty generations.

Glass does not seem to have been known to the Indians, for although Tezcatlipoca was often figured with a pair of spectacles, they may only have been figurative ones like those of the manuscripts, terra-cotta, or *bassi-relievi*, for there is nothing to show that they had any idea of optics.

I now went back to my men, when to my great delight I found they had unearthed two large slabs showing the entrance of two sepulchres; they were the first I had yet found, and considering them very important, I immediately telegraphed to Messrs. Chavero and Berra, both of whom are particularly interested in American archæology. I expected to see them come by the very next train, to view not only the tombstones, but also the palace, which attracted a great many visitors; but to my surprise one sent word that he had a headache, whilst the other pleaded a less poetic ailment. . . .

One of the slabs closed a vault, and the other a cave with perpendicular walls; we went down the former by a flight of steps, in fairly good condition, yet it was a long and rather dangerous affair, for we were first obliged to demolish a wall facing us, in which we found a skull, before we could get to the room which contained the tombs.

The vases within them are exactly like those we found in the plaza, except that one is filled with a fatty substance —like burnt flesh—mixed with some kind of stuff, the woof of which is still discernible, besides beads of serpentine, bones of dogs and squirrels, knives of obsidian, twisted by the action of fire. We know from Sahagun that the dead were buried with their clothes and their dogs to guide and defend them in their long journey: "When the dead were ushered into the presence of the king of the nether world, Mictlanteculti, they offered him papers, bundles of sticks,

pine-wood and perfumed reeds, together with loosely twisted threads of white and red cotton, a manta, a maxtli, tunics, and shirts. When a woman died her whole wardrobe was carefully put aside, and a portion burnt eighty days after; this operation was repeated on that day twelve months for four years, when everything that had belonged to the deceased was finally consumed. The dead then came out of the first circle to go successively through nine others encompassed by a large river. On its banks were a number of dogs which helped their owners to cross the river; whenever a ghost neared the bank, his dog immediately jumped into the river and swam by his side or carried him to the opposite bank." It was on this account that Indians had always several small dogs about them.

The speech which was addressed to the dead when laid out previous to being buried, is so remarkable as to make one suspect that the author unconsciously added something of his own: "Son, your earthly hardships and sufferings are over. We are but mortal, and it has pleased the Lord to call you to himself. We had the privilege of being intimately acquainted with you; but now you share the abode of the gods, whither we shall all follow, for such is the destiny of man. The place is large enough to receive every one; but although all are bound for the gloomy bourn, none ever return." Then followed the speech addressed to the nearest kinsman of the dead: "O son, cheer up; eat, drink, and let not your mind be cast down. Against the divine fiat who can contend? This is not of man's doing; it is the Lord's. Take comfort to bear up against the evils of daily life; for who is able to add a day, an hour, to his existence? Cheer up, therefore, as becomes a man."

But to return to our tombstones. They are both alike, being about five feet high, three feet five inches broad, and six inches and a half thick. The upper side is smooth, the lower has some carving in the shape of a cross, four big tears or drops of water, and a pointed tongue in the center, which, starting from the bottom of the slab, runs up in a line parallel to the drops.

Knowing how general was the worship of Tlaloc among the Indians I conjectured this had been a monument to the god of rain, to render him propitious to the dead; a view shared and enlarged upon by Dr. Hamy in a paper read before the Académie des Sciences in November, 1882; and that I should be in accord with the eminent specialist on American antiquities is a circumstance to make me proud. I may add that the carving of this slab is similar to that of the cross on the famous *basso-relievo* at Palenque; so that the probability of the two monuments having been erected to the god of rain is much strengthened thereby.

As our slabs are far more archaic than those at Palenque, we think we are justified in calling them earlier in time—the parent samples of the later ones. Nor is our assumption unsupported, for we shall subsequently find that the cult of Tlaloc and Quetzalcoatl was carried by the Toltecs in their distant peregrinations. These slabs, therefore, and the pillars which were found in the village, acquire a paramount importance in establishing the affiliation of Toltec settlements in Tabasco, Yucatan, and other places, furnishing us with further data in regard to certain monuments at Palenque, the steles of Tikal, and the massive monolith idols of Copan.

I next attacked the terraced court fronting the palace toward the Path of Death, and the amount of constructions and substructures we came upon is almost beyond belief: inclined stuccoed walls crossing each other in all directions, flights of steps leading to terraces within the pyramid, ornaments, pottery, and detritus; so much so that the pyramid might not improperly be called a necropolis, in which the living had their dwellings.

In a word, our campaign at Teotihuacan was as successful as our campaign at Tula. We were attended by the same good fortune, and the reader whom such things may interest will find a bas-relief of both Toltec palaces, and of one of the tombstones, in the Trocadéro.

From what has been said it will be seen that the monuments at Teotihuacan were partly standing at the time of the Conquest.

AMERICA

The Ascent of Mount Tyndall

By CLARENCE KING

CLIMBING became exceedingly difficult, light air—for we had already reached 12,500 feet—beginning to tell on our lungs to such an extent that my friend, who had taken turns with me in carrying my pack, was unable to do so any longer, and I adjusted it to my own shoulders for the rest of the day.

After four hours of slow, laborious work we made the base of the débris slope which rose about a thousand feet to a saddle pass in the western mountain-wall, that range upon which Mount Brewer [named after our comrade] is so prominent a point. We were nearly an hour in toiling up this slope over an uncertain footing which gave way at almost every step. At last, when almost at the top, we paused to take breath, and then all walked out upon the crest, laid off our packs, and sat down together upon the summit of the ridge, and for a few minutes not a word was spoken.

The Sierras are here two parallel summit ranges. We were upon the crest of the western range, and looked down into a gulf 5000 feet deep, sinking from our feet in abrupt cliffs nearly or quite 2000 feet, whose base plunged into a broad field of snow lying steep and smooth for a great distance, but broken near its foot by craggy steps often a thousand feet high.

Vague blue haze obscured the lost depths, hiding details, giving a bottomless distance out of which, like the breath

of wind, floated up a faint treble, vibrating upon the senses, yet never clearly heard.

Rising on the other side, cliff above cliff, precipice piled upon precipice, rock over rock, up against sky, towered the most gigantic mountain-wall in America, culminating in a noble pile of Gothic-finished granite and enamel-like snow. How grand and inviting looked its white form, its untrodden, unknown crest, so high and pure in the clear strong blue! I looked at it as one contemplating the purpose of his life; and for just one moment I would have rather liked to dodge that purpose, or to have waited, or to have found some excellent reason why I might not go; but all this quickly vanished, leaving a cheerful resolve to go ahead.

From the two opposing mountain-walls singular, thin, knife-blade ridges of stone jutted out, dividing the sides of the gulf into a series of amphitheaters, each one a labyrinth of ice and rock. Piercing thick beds of snow sprang up, knobs and straight isolated spires of rock, mere obelisks curiously carved by frost, their rigid slender forms casting a blue, sharp shadow upon the snow. Embosomed in depressions of ice, or resting on broken ledges, were azure lakes, deeper in tone than the sky, which at this altitude, even at midday, has a violet duskiness.

To the south, not more than eight miles, a wall of peaks stood across the gulf, dividing the King's, which flowed north at our feet, from the Kern River, that flowed down the trough in the opposite direction.

I did not wonder that Brewer and Hoffman pronounced our undertaking impossible; but when I looked at Cotter there was such complete bravery in his eye that I asked him if he were ready to start. His old answer, "Why not?" left the initiative with me; so I told Professor Brewer that we would bid him good-bye. Our friends helped us on with our packs in silence, and as we shook hands there was not a dry eye in the party. Before he let go of my hand Professor Brewer asked me for my plan, and I had to own that I had but one, which was to reach the highest peak in the range.

After looking in every direction I was obliged to confess that I saw as yet no practicable way. We bade them a "good-bye," receiving their "God bless you" in return, and started southward along the range to look for some possible cliff to descend. Brewer, Gardner and Hoffman turned north to push upward to the summit of Mount Brewer, and complete their observations. We saw them whenever we halted, until at last, on the very summit, their microscopic forms were for the last time visible. With very great difficulty we climbed a peak which surmounted our wall just to the south of the pass, and, looking over the eastern brink, found that the precipice was still sheer and unbroken. In one place, where the snow lay against it to the very top, we went to its edge and contemplated the slide. About 3000 feet of unbroken white, at a fearfully steep angle, lay below us. We threw a stone over it and watched it bound until it was lost in the distance; after fearful leaps we could only detect it by the flashings of snow where it struck, and as these were in some instances three hundred feet apart, we decided not to launch our own valuable bodies, and the still more precious barometer, after it.

There seemed but one possible way to reach our goal; that was to make our way along the summit of the cross ridge which projected between the two ranges. This divide sprang out from our Mount Brewer wall, about four miles to the south of us. To reach it we must climb up and down over the indented edge of the Mount Brewer wall. In attempting to do this we had a rather lively time scaling a sharp granite needle, where we found our course completely stopped by precipices four and five hundred feet in height. Ahead of us the summit continued to be broken into fantastic pinnacles, leaving us no hope of making our way along it; so we sought the most broken part of the eastern descent, and began to climb down. The heavy knapsacks, beside wearing our shoulders gradually into a black-and-blue state, overbalanced us terribly, and kept us in constant danger of pitching headlong. At last, taking them off, Cotter climbed down until he found a resting-place upon a cleft of rock,

then I lowered them to him with our lasso, afterward descending cautiously to his side, taking my turn in pioneering downward, receiving the freight of knapsacks as before. In this manner we consumed more than half the afternoon in descending a thousand feet of broken, precipitous slope; and it was almost sunset when we found ourselves upon fields of level snow which lay white and thick over the whole interior slope of the amphitheater. The gorge below us seemed utterly impassable. At our backs the Mount Brewer wall either rose in sheer cliffs or in broken, rugged stairway, such as had offered us our descent. From this cruel dilemma the cross divide furnished the only hope, and the sole chance of scaling that was at its junction with the Mount Brewer wall. Toward this point we directed our course, marching wearily over stretches of dense frozen snow, and regions of débris, reaching about sunset the last alcove of the amphitheater, just at the foot of the Mount Brewer wall. It was evidently impossible for us to attempt to climb it that evening, and we looked about the desolate recesses for a sheltered camping-spot. A high granite wall surrounded us upon three sides, recurving to the southward in long elliptical curves; no part of the summit being less than 2000 feet above us, the higher crags not infrequently reaching 3000 feet. A single field of snow swept around the base of the rock, and covered the whole amphitheater, except where a few spikes and rounded masses of granite rose through it, and where two frozen lakes, with their blue ice-disks, broke the monotonous surface. Through the white snow-gate of our amphitheater, as through a frame, we looked eastward upon the summit group; not a tree, not a vestige of vegetation in sight—sky, snow, and granite the only elements in this wild picture.

After searching for a shelter we at last found a granite crevice near the margin of one of the frozen lakes—a sort of shelf just large enough for Cotter and me—where we hastened to make our bed, having first filled the canteen from a small stream that trickled over the ice, knowing that in a few moments the rapid chill would freeze it. We ate our

supper of cold venison and bread, and whittled from the sides of the wooden barometer case shaving enough to warm water for a cup of miserably tepid tea, and then, packing our provisions and instruments away at the head of the shelf, rolled ourselves in our blankets and lay down to enjoy the view.

After such fatiguing exercises the mind has an almost abnormal clearness; whether this is wholly from within, or due to the intensely vitalizing mountain air, I am not sure; probably both contribute to the state of exaltation in which all alpine climbers find themselves. The solid granite gave me a luxurious repose, and I lay on the edge of our little rock niche and watched the strange yet brilliant scene.

All the snow of our recess lay in the shadow of the high granite wall to the west, but the Kern divide which curved around us from the southeast was in full light; its broken sky-line, battlemented and adorned with innumerable rough-hewn spires and pinnacles, was a mass of glowing orange intensely defined against the deep violet sky. At the open end of our horseshoe amphitheater, to the east, its floor of snow rounded over in a smooth brink, overhanging precipices which sank 2000 feet into the King's Cañon. Across the gulf rose the whole procession of summit peaks, their lower half rooted in a deep, somber shadow cast by the western wall, the heights bathed in a warm purple haze, in which the irregular marbling of snow burned with a pure crimson light. A few fleecy clouds, dyed fiery orange, drifted slowly eastward across the narrow zone of sky which stretched from summit to summit like a roof. At times the sound of water-falls, faint and mingled with echoes, floated up through the still air. The snow near by lay in cold, ghastly shade, warmed here and there in strange flashes by light reflected downward from drifting clouds. The somber waste about us; the deep violet vault overhead; those far summits, glowing with reflected rose; the deep impenetrable gloom which filled the gorge, and slowly and with vapor-like stealth climbed the mountain-wall, extinguishing the red light, com-

bined to produce an effect which may not be described; nor can I more than hint at the contrast between the brilliancy of the scene under full light, and the cold, death-like repose which followed when the wan cliffs and pallid snow were all overshadowed with ghostly gray.

A sudden chill enveloped us. Stars in a moment crowded through the dark heaven, flashing with a frosty splendor. The snow congealed, the brooks ceased to flow, and, under the powerful, sudden leverage of frost, immense blocks were dislodged all along the mountain summits and came thundering down the slopes, booming upon the ice, dashing wildly upon rocks. Under the lee of our shelf we felt quite safe, but neither Cotter nor I could help being startled, and jumping just a little, as these missiles, weighing often many tons, struck the ledge over our heads and whizzed down the gorge, their stroke resounding fainter and fainter, until at last only a confused echo reached us.

The thermometer at nine o'clock marked twenty degrees above zero. We set the "minimum" and rolled ourselves together for the night. The longer I lay the less I liked that shelf of granite; it grew hard in time, and cold also, my bones seeming to approach actual contact with the chilled rock; moreover, I found that even so vigorous a circulation as mine was not enough to warm up the ledge to anything like a comfortable temperature. A single thickness of blanket is a better mattress than none, but the larger crystals of orthoclase, protruding plentifully, punched my back and caused me to revolve on a horizontal axis with precision and accuracy. How I loved Cotter! how I hugged him and got warm, while our backs gradually petrified, till we whirled over and thawed them out together! The slant of that bed was diagonal and excessive; down it we slid till the ice chilled us awake, and we crawled back and chocked ourselves up with bits of granite inserted under my ribs and shoulders. In this pleasant position we got dozing again, and there stole over me a most comfortable ease. The granite softened perceptibly. I was delightfully warm and sank into an industrious slumber which lasted with great

soundness until four, when we arose and ate our breakfast of frozen venison.

The thermometer stood at two above zero; everything was frozen tight except the canteen, which we had prudently kept between us all night. Stars still blazed brightly, and the moon, hidden from us by western cliffs, shone in pale reflection upon the rocky heights to the east, which rose, dimly white, up from the impenetrable shadows of the cañon. Silence—cold, ghastly dimness, in which loomed huge forms —the biting frostiness of the air, wrought upon our feelings as we shouldered our packs and started with slow pace to climb up the "divide."

Soon, to our dismay, we found the straps had so chafed our shoulders that the weight gave us great pain and obliged us to pad them with our handkerchiefs and extra socks, which remedy did not wholly relieve us from the constant wearing pain of the heavy load.

Directing our steps southward toward a niche in the wall which bounded us only half a mile distant, we traveled over a continuous snow-field frozen so densely as scarcely to yield at all to our tread, at the same time compressing enough to make that crisp frosty sound which we all used to enjoy even before we knew from the books that it had something to do with the severe name of regelation.

As we advanced, the snow sloped more and more steeply up toward the crags, till by and by it became quite dangerous, causing us to cut steps with Cotter's large bowie-knife —a slow, tedious operation, requiring patience of a pretty permanent kind. In this way we spent a quiet social hour or so. The sun had not yet reached us, being shut out by the high amphitheater wall; but its cheerful light reflected downward from a number of higher crags, filling the recess with the brightness of day, and putting out of existence those shadows which so somberly darkened the earlier hours. To look back when we stopped to rest was to realize our danger—that smooth, swift slope of ice carrying the eye down a thousand feet to the margin of a frozen mirror of ice; ribs and needles of rocks piercing up through the snow,

so closely grouped that, had we fallen, a miracle only might have saved us from being dashed. This led to rather deeper steps, and greater care that our burdens should be held more nearly over the center of gravity, and a pleasant relief when we got to the top of the snow and sat down on a block of granite to breathe and look up in search of a way up the thousand-foot cliff of broken surface, among the lines of fracture and the galleries winding along the face.

It would have disheartened us to gaze up the hard, sheer front of precipices, and search among splintered projections, crevices, shelves, and snow patches for an inviting route, had we not been animated by a faith that the mountains could not defy us.

Choosing what looked like the least impossible way, we started; but, finding it unsafe to work with packs on, resumed the yesterday's plan—Cotter taking the lead, climbing about fifty feet ahead, and hoisting up the knapsacks and barometer as I tied them to the end of the lasso. Constantly closing up in hopeless difficulty before us, the way opened again and again to our gymnastics, till we stood together on a mere shelf, not more than two feet wide, which led diagonally up the smooth cliff. Edging along in careful steps, our backs flattened upon the granite, we moved slowly to a broad platform, where we stopped for breath.

There was no foothold above us. Looking down over the course we had come, it seemed, and I really believe it was, an impossible descent, for one can climb upward with safety where he cannot downward. To turn back was to give up in defeat: and we sat at least half an hour suggesting all possible routes to the summit, accepting none, and feeling disheartened. About thirty feet directly over our heads was another shelf, which, if we could reach, seemed to offer at least a temporary way upward. On its edge were two or three spikes of granite, whether firmly connected with the cliff, or merely blocks of débris, we could not tell from below. I said to Cotter, I thought of but one possible plan: it was to lasso one of these blocks, and to climb, sailor-fashion, hand over hand, up the rope. In the lasso I had

perfect confidence, for I had seen more than one Spanish bull throw his whole weight against it without parting a strand. The shelf was so narrow that throwing the coil of rope was a very difficult undertaking. I tried three times, and Cotter spent five minutes vainly whirling the loop up at the granite spikes. At last I made a lucky throw, and it tightened upon one of the smaller protuberances. I drew the noose close, and very gradually threw my hundred and fifty pounds upon the rope; then Cotter joined me, and, for a moment, we both hung our united weight upon it. Whether the rock moved slightly or whether the lasso stretched a little we were unable to decide; but the trial must be made, and I began to climb slowly. The smooth precipice-face against which my body swung offered no foothold, and the whole climb had therefore to be done by the arms, an effort requiring all one's determination. When about half way up I was obliged to rest, and, curling my feet in the rope, managed to relieve my arms for a moment. In this position I could not resist the fascinating temptation of a survey downward.

Straight down, nearly a thousand feet below, at the foot of the rocks, began the snow, whose steep, roof-like slope, exaggerated into an almost vertical angle, curved down in a long white field, broken far away by rocks and polished, round lakes of ice.

Cotter looked up cheerfully and asked how I was making it; to which I answered that I had plenty of wind left. At that moment, when hanging between heaven and earth, it was a deep satisfaction to look down at the wide gulf of desolation beneath, and up to unknown dangers ahead, and feel my nerves cool and unshaken.

A few pulls hand over hand brought me to the edge of the shelf, when, throwing my arm around the granite spike, I swung my body upon the shelf and lay down to rest, shouting to Cotter that I was all right, and that the prospects upward were capital. After a few moments' breathing I looked over the brink and directed my comrade to tie the barometer to the lower end of the lasso, which he did, and

that precious instrument was hoisted to my station, and the lasso sent down twice for knapsacks, after which Cotter came up the rope in his very muscular way without once stopping to rest. We took our loads in our hands, swinging the barometer over my shoulder, and climbed up a shelf which led in a zig-zag direction upward and to the south, bringing us out at last upon the thin blade of a ridge which connected a short distance above the summit. It was formed of huge blocks, shattered, and ready, at a touch, to fall.

So narrow and sharp was the upper slope, that we dared not walk, but got astride, and worked slowly along with our hands, pushing the knapsacks in advance, now and then holding our breath when loose masses rocked under our weight.

Once upon the summit, a grand view burst upon us. Hastening to step upon the crest of the divide, which was never more than ten feet wide, frequently sharpened to a mere blade, we looked down upon the other side, and were astonished to find we had ascended the gentler slope, and that the rocks fell from our feet in almost vertical precipices for a thousand feet or more. A glance along the summit toward the highest group showed us that any advance in that direction was impossible, for the thin ridge was gashed down in notches three or four hundred feet deep, forming a procession of pillars, obelisks, and blocks piled upon each other, and looking terribly insecure.

We then deposited our knapsacks in a safe place, and, finding that it was already noon, determined to rest a little while and take a lunch at over 13,000 feet above the sea.

West of us stretched the Mount Brewer wall with its succession of smooth precipices and amphitheater ridges. To the north the great gorge of the King's River yawned down 5000 feet. To the south, the valley of the Kern, opening in the opposite direction, was broader, less deep, but more filled with broken masses of granite. Clustered about the foot of the divide were a dozen alpine lakes; the higher ones blue sheets of ice, the lowest completely melted. Still

lower in the depths of the two cañons we could see groups of forest trees; but they were so dim and so distant as never to relieve the prevalent masses of rock and snow. Our divide cast its shadow for a mile down King's Cañon in dark-blue profile upon the broad sheets of sunny snow, from whose brightness the hard splintered cliffs caught reflections and wore an aspect of joy. Thousands of rills poured from the melting snow, filling the air with a musical tinkle as of many accordant bells. The Kern Valley opened below us with its smooth oval outline, the work of extinct glaciers, whose form and extent were evident from worn cliff surface and rounded wall; snow-fields, relics of the former *neve* [glacier snow], hung in white tapestries around its ancient birthplace; and, as far as we could see, the broad, corrugated valley, for a breadth of fully ten miles, shone with burnishings wherever its granite surface was not covered with lakelets or thickets of alpine vegetation.

Through a deep cut in the Mount Brewer wall we gained our first view to the westward, and saw in the distance the wall of the South King's Cañon, and the granite point which Cotter and I had climbed a fortnight before. But for the haze we might have seen the plain; for above its farther limit were several points of the Coast Ranges, isolated like islands in the sea.

The view was so grand, the mountain colors so brilliant, immense snow-fields and blue alpine lakes so charming, that we almost forgot we were ever to move, and it was only after a swift hour of this delight that we began to consider our future course.

The King's Cañon, which headed against our wall, seemed untraversable—no human being could climb along the divide; we had then but one hope of reaching the peak, and our greatest difficulty lay at the start. If we could climb down to the Kern side of the divide, and succeed in reaching the base of the precipices which fell from our feet, it really looked as if we might travel without difficulty among the rocks to the other side of the Kern Valley, and make our attempt upon the southward flank of the great

peak. One look at the sublime white giant decided us. We looked down over the precipice, and at first could see no method of descent. Then we went back and looked at the road we had come up, to see if that were not possibly as bad; but the broken surface of the rocks was evidently much better climbing-ground than anything ahead of us. Cotter, with danger, edged his way along the wall to the east, and I to the west, to see if there might not be some favorable point; but we both returned with the belief that the precipice in front of us was as passable as any of it. Down it we must.

After lying on our faces, looking over the brink ten or twenty minutes, I suggested that by lowering ourselves on the rope we might climb from crevice to crevice; but we saw no shelf large enough for ourselves and the knapsacks too. However, we were not going to give it up without a trial; and I made the rope fast around my breast and, looping the noose over a firm point of rock, let myself slide gradually down to a notch forty feet below. There was only room beside me for Cotter, so I had him send down the knapsacks first. I then tied these together by the straps with my silk handkerchiefs, and hung them as far to the left as I could reach without losing my balance, looping the handkerchiefs over a point of rock. Cotter then slid down the rope, and, with considerable difficulty, we whipped the noose off its resting-place above and cut off our connection with the upper world.

"We're in for it now, King," remarked my comrade, as he looked aloft and then down; but our blood was up, and danger added only an exhilarating thrill to the nerves.

The shelf was hardly more than two feet wide, and the granite so smooth that we could find no place to fasten the lasso for the next descent; so I determined to try the climb with only as little aid as possible. Tying it round my breast again, I gave the other end into Cotter's hands, and he, bracing his back against the cliff, found for himself as firm a foothold as he could, and promised to give me all the help in his power. I made up my mind to bear no weight unless

it was absolutely necessary; and for the first ten feet I found cracks and protuberances enough to support me, making every square inch of surface do friction duty, and hugging myself against the rocks as tightly as I could. When within about eight feet of the next shelf I twisted myself round upon the face, hanging by two rough blocks of protruding feldspar, and looked vainly for some further hand-hold; but the rock, besides being perfectly smooth, overhung slightly, and my legs dangled in the air. I saw that the next cleft was over three feet broad, and I thought possibly I might by a quick slide reach it in safety without endangering Cotter. I shouted to him to be very careful and let go in case I fell, loosened my hold upon the rope, and slid quickly down. My shoulder struck against the rock and threw me out of balance; for an instant I reeled over upon the verge, in danger of falling, but in the excitement I thrust out my hand and seized a small alpine gooseberry bush, the first piece of vegetation we had seen. Its roots were so firmly fixed in the crevice that it held my weight and saved me.

I could no longer see Cotter, but I talked to him, and heard the two knapsacks come bumping along until they slid over the eaves above me and swung down to my station, when I seized the lasso's end and braced myself as well as possible, intending, if he slipped, to haul in slack and help him as best I might. As he came slowly down from crack to crack, I heard his hobnailed shoes grating on the granite; presently they appeared dangling from the eaves above my head. I had gathered in the rope until it was taut, and then hurriedly told him to drop. He hesitated a moment and let go. Before he struck the rock I had him by the shoulder, and whirled him down upon his side, thus preventing his rolling overboard, which friendly action he took quite coolly.

The third descent was not a difficult one, nor the fourth; but when we had climbed down about two hundred and fifty feet the rocks were so glacially polished and water-worn that it seemed impossible to get any farther. To our right was a crack penetrating the rock perhaps a foot deep, widen-

ing at the surface to three or four inches, which proved to be the only possible ladder. As the chances seemed rather desperate, we concluded to tie ourselves together, in order to share a common fate; and with a slack of thirty feet between us, and our knapsacks upon our backs, we climbed into the crevice and began descending with our faces to the cliff. This had to be done with unusual caution, for the foothold was about as good as none, and our fingers slipped annoyingly on the smooth stone; besides the knapsacks and instruments kept a steady backward pull, tending to overbalance us. But we took pains to descend one at a time, and rest wherever the niches gave our feet a safe support. In this way we got down about eighty feet of smooth, nearly vertical wall, reaching the top of a rude granite stairway which led to the snow; and here we sat down to rest, and found to our astonishment that we had been three hours from the summit.

After breathing a half-minute we continued down, jumping from rock to rock, and, having by practice become very expert in balancing ourselves, sprang on, never resting long enough to lose equilibrium, and in this manner made a quick descent over rugged débris to the crest of a snow-field, which, for seven or eight hundred feet more, swept down in a smooth, even slope, of very high angle, to the borders of a frozen lake.

Without untying the lasso which bound us together, we sprang upon the snow with a shout, and slid down splendidly, turning now and then a somersault, and shooting out like cannon-balls almost to the middle of the frozen lake; I upon my back, and Cotter feet first, in a swimming position. The ice cracked in all directions. It was only a thin, transparent film, through which we could see deep into the lake. Untying ourselves, we hurried ashore in different directions, lest our combined weight should be too great a strain upon any point.

With curiosity and wonder we scanned every shelf and niche of the last descent. It seemed quite impossible that we could have come down there, and now it actually was

beyond human power to get back again. But what cared we? "Sufficient unto the day"—. We were bound for that still distant, though gradually nearing, summit; and we had come from a cold shadowed cliff into deliciously warm sunshine, and were jolly, shouting, singing songs, and calling out the companionship of a hundred echoes. Six miles away, with no grave danger, no great difficulty, between us, lay the base of our grand mountain. Upon its skirts we saw a little grove of pines, an ideal bivouac, and toward this we bent our course.

After the continued climbing of the day, walking was a delicious rest, and forward we pressed with considerable speed, our hobnails giving us firm footing on the glittering glacial surface. Every fluting of the great valley was in itself a considerable cañon, into which we descended, climbing down the scored rocks, and swinging from block to block, until we reached the level of the pines. Here, sheltered among loose rocks, began to appear little fields of alpine grass, pale yet sunny, soft under our feet, fragrantly jeweled with flowers of fairy delicacy, holding up amid thickly clustered blades chalices of turquoise and amethyst, white stars, and fiery little globes of red. Lakelets small but innumerable were held in glacial basins, the scorings and grooves of that old dragon's track ornamenting their smooth bottoms.

One of these, a sheet of pure beryl hue, gave us as much pleasure from its lovely transparency, and because we lay down in the necklace of grass about it and smelled flowers, while tired muscles relaxed upon warm beds of verdure, and the pain in our burdened shoulders went away, leaving us delightfully comfortable.

After the stern grandeur of granite and ice, and with the peaks and walls still in view, it was relief to find ourselves again in the region of life. I never felt for trees and flowers such a sense of intimate relationship and sympathy. When we had no longer excuse for resting, I invented the palpable subterfuge of measuring the altitude of the spot, since the few clumps of low, wide-boughed pines near by were the

highest living trees. So we lay longer with less and less will to rise, and when resolution called us to our feet the getting up was sorely like Rip Van Winkle's in the third act.

The deep glacial cañon-flutings across which our march then lay proved to be great consumers of time; indeed it was sunset when we reached the eastern ascent, and began to toil up through scattered pines, and over trains of moraine [glacial] rocks, toward the great peak. Stars were already flashing brilliantly in the sky, and the low glowing arch in the west had almost vanished when we reached the upper trees and threw down our knapsacks to camp. The forest grew on a sort of plateau-shelf with a precipitous front to the west—a level surface which stretched eastward and back to the foot of our mountain whose lower spurs reached within a mile of camp. Within the shelter lay a huge fallen log, like all these alpine woods one mass of resin, which flared up when we applied a match, illuminating the whole grove. By contrast with the darkness outside, we seemed to be in a vast, many-pillared hall. The stream close by afforded water for our blessed teapot; venison frizzled with mild, appetizing sound upon the ends of pine sticks; matchless beans allowed themselves to become seductively crisp upon our tin plates. That supper seemed to me then the quintessence of gastronomy, and I am sure Cotter and I must have said some very good after-dinner things, though I long ago forgot them all. Within the ring of warmth, on elastic beds of pine-needles, we curled up, and fell swiftly into a sound sleep.

I woke up once in the night to look at my watch, and observed that the sky was overcast with a thin film of cirrus cloud to which the reflected moonlight lent the appearance of a glimmering tint, stretched from mountain to mountain over cañons filled with impenetrable darkness, only the vaguely lighted peaks and white snow-fields distinctly seen. I closed my eyes and slept soundly until Cotter awoke me at half-past three, when we arose, breakfasted by the light of our fire, which still blazed brilliantly, and, leaving our

knapsacks, started for the mountain with only instruments, canteens, and luncheon.

In the indistinct moonlight climbing was very difficult at first, for we had to thread our way along a plain which was literally covered with glacier bowlders, and the innumerable brooks which we crossed were frozen solid. However, our march brought us to the base of the great mountain, which, rising high against the east, shut out the coming daylight, and kept us in profound shadow. From base to summit rose a series of broken crags, lifting themselves from a general slope of débris. Toward the left the angle seemed to be rather gentler, and the surface less ragged; and we hoped, by a long détour round the base, to make an easy climb up this gentler surface. So we toiled on for an hour over the rocks, reaching at last the bottom of the north slope. Here our work began in good earnest. The blocks were of enormous size, and in every stage of unstable equilibrium, frequently rolling over as we jumped upon them, making it necessary for us to take a second leap and land where we best could. To our relief we soon surmounted the largest blocks, reaching a smaller size, which served us as a sort of stairway.

The advancing daylight revealed to us a very long, comparatively even snow-slope, whose surface was pierced by many knobs and granite heads, giving it the aspect of an ice-roofing fastened on with bolts of stone. It stretched in far perspective to the summit, where already the rose of sunrise reflected gloriously, kindling a fresh enthusiasm within us.

Immense bowlders were partly imbedded in the ice just above us, whose constant melting left them trembling on the edge of a fall. It communicated no very pleasant sensation to see above you these immense missiles hanging by a mere band, and knowing that, as soon as the sun rose, you would be exposed to a constant cannonade.

The east side of the peak, which we could now partially see, was too precipitous to think of climbing. The slope toward our camp was too much broken into pinnacles and crags to offer us any hope, or to divert us from the single

way, dead ahead, up slopes of ice and among fragments of granite. The sun rose upon us while we were climbing the lower part of this snow, and in less than half an hour, melting began to liberate huge blocks, which thundered down past us, gathering and growing into small avalanches below.

We did not dare climb one above another, according to our ordinary mode, but kept about an equal level, a hundred feet apart, lest, dislodging the blocks, one should hurl them down upon the other.

We climbed alternately up smooth faces of granite, clinging simply by the cracks and protruding crystals of feldspar, and then hewed steps up fearfully steep slopes of ice, zigzagging to the right and left to avoid the flying bowlders. When midway up this slope we reached a place where the granite rose in perfectly smooth bluffs on either side of a gorge—a narrow cut, or walled way, leading up to the flat summit of the cliff. This we scaled by cutting ice steps, only to find ourselves fronted again by a still higher wall. Ice sloped from its front at too steep an angle for us to follow, but had melted in contact with it, leaving a space three feet wide between the ice and the rock. We entered this crevice and climbed along its bottom, with a wall of rock rising a hundred feet above us on one side and a thirty-foot face of ice on the other, through which light of an intense cobalt-blue penetrated.

Reaching the upper end, we had to cut our footsteps upon the ice again, and, having braced our backs against the granite, climb up to the surface. We were now in a dangerous position; to fall into the crevice upon one side was to be wedged to death between rock and ice; to make a slip was to be shot down five hundred feet, and then hurled over the brink of a precipice. In the friendly seat which this wedge gave me, I stopped to take wet and dry observations with the thermometer—this being an absolute preventive of a scare—and to enjoy the view.

The wall of our mountain sank abruptly to the left, opening for the first time an outlook to the eastward. Deep—it seemed almost vertically—beneath us we could see the blue

waters of Owen's Lake, 10,000 feet below. The summit peaks to the north were piled up in titanic confusion, their ridges overhanging the eastern slope with terrible abruptness. Clustered upon the shelves and plateaus below were several frozen lakes, and in all directions swept magnificent fields of snow. The summit was now not over five hundred feet distant, and we started on again with the exhilarating hope of success. But if Nature had intended to secure the summit from all assailants, she could not have planned her defenses better; for the smooth granite wall which rose above the snow-slope continued, apparently, quite round the peak, and we looked in great anxiety to see if there was not one place where it might be climbed. It was all blank except in one place; quite near us the snow bridged across the crevice, and rose in a long point to the summit of the wall —a great icicle-column frozen in a niche of the bluff—its base about ten feet wide, narrowing to two feet at the top. We climbed to the base of this spire of ice, and, with the utmost care, began to cut our stairway. The material was an exceedingly compacted snow, passing into clear ice as it neared the rock. We climbed the first half of it with comparative ease; after that it was almost vertical, and so thin that we did not dare to cut the footsteps deep enough to make them absolutely safe. There was a constant dread lest our ladder should break off, and we be thrown either down the snow-slope or into the bottom of the crevasse. At last, in order to prevent myself from falling over backwards, I was obliged to thrust my hand into the crack between the ice and the wall, and the spire became so narrow that I could do this on both sides; so that the climb was made as upon a tree, cutting mere toe-holes and embracing the whole column of ice in my arms. At last I reached the top, and, with the greatest caution, wormed my body over the brink, and rolling out upon the smooth surface of the granite, looked over and watched Cotter make his climb. He came up steadily, with no sense of nervousness, until he got to the narrow part of the ice, and here he stopped and looked up with a forlorn face to me; but as he climbed up

over the ledge the broad smile came back to his face and he asked me if it had occurred to me that we had, by and by, to go down again.

We had now an easy slope to the summit, and hurried up over rocks and ice, reaching the crest at exactly twelve o'clock. I rang my hammer upon the topmost rock; we grasped hands, and I reverently named the grand peak MOUNT TYNDALL.

AMERICA

The Grand Cañon of the Colorado

By JOHN WESLEY POWELL

AUGUST 13, 1869.—We are now ready to start on our way down the Great Unknown. Our boats, tied to a common stake, are chafing each other, as they are tossed by the fretful river. They ride high and buoyant, for their loads are lighter than we could desire. We have but a month's rations remaining. The flour has been resifted through the mosquito net sieve; the spoiled bacon has been dried, and the worst of it boiled; the few pounds of dried apples have been spread in the sun and reshrunken to their normal bulk; the sugar has all melted and gone on its way down the river; but we have a large sack of coffee. The lightening of the boats has this advantage; they will ride the waves better, and we shall have but little to carry when we make a portage.

We are three-quarters of a mile in the depths of the earth, and the great river shrinks into insignificance as it dashes its angry waves against the walls and cliffs that rise to the world above; they are but puny ripples, and we but pygmies, running up and down the sands or lost among the bowlders.

We have an unknown distance yet to run; an unknown river yet to explore. What falls there are, we know not; what rocks beset the channel, we know not; what walls rise over the river, we know not. Ah, well! we may con-

jecture many things. The men talk as cheerfully as ever; jests are bandied out freely this morning, but to me the cheer is somber and the jests are ghastly.

With some eagerness and some anxiety and some misgiving, we enter the cañon below, and are carried along by the swift water through walls which rise from its very edge. They have the same structure as we noticed yesterday—tiers of irregular shelves below, and above these, steep slopes to the foot of marble cliffs. We run six miles in a little more than half an hour, and emerge into a more open portion of the cañon, where high hills and ledges of rock intervene between the river and the distant walls. Just at the head of this open place the river runs across a dike; that is, a fissure in the rocks open to depths below has been filled with eruptive matter, and this, on cooling, was harder than the rocks through which the crevice was made, and when these were washed away the harder volcanic matter remained as a wall, and the river has cut a gateway through it several hundred feet high and as many wide. As it crosses the wall, there is a fall below, and a bad rapid, filled with bowlders of trap; so we stop to make a portage. Then on we go, gliding by hills and ledges, with distant walls in view; sweeping past sharp angles of rock; stopping at a few points to examine rapids which we find can be run, until we have made another five miles, when we land for dinner.

Then we let down with lines, over a long rapid, and start again. Once more the walls close in and we find ourselves in a narrow gorge, the water again filling the channel, and very swift. With great care and constant watchfulness we proceed, making about four miles this afternoon, and camp in a cave.

August 14.—At daybreak we walk down the bank of the river, on a little sandy beach, to take a view of a new feature in the cañon. Heretofore hard rocks have given us bad river; soft rocks smooth water; and a series of rocks harder than any we have experienced sets in. The river enters the granite!

We can see but a little way into the granite gorge, but it looks threatening.

After breakfast we enter on the waves. At the very introduction it inspires awe. The cañon is narrower than we have ever before seen it; the water is swifter; there are but few broken rocks in the channel; but the walls are set on either side with pinnacles and crags, and sharp, angular buttresses, bristling with wind and wave-polished spires, extend far out into the river.

Ledges of rock jut into the stream, their tops just below the surface, sometimes rising few or many feet above; and island ledges and island pinnacles and island towers break the swift course of the stream into chutes and eddies and whirlpools. We soon reach a place where a creek comes in from the left, and just below the channel is choked with bowlders which have washed down this lateral cañon and formed a dam, over which there is a fall of thirty or forty feet; but on the bowlders we can get foothold, and we make a portage.

Three more such dams are found. Over one we make a portage; at the other two we find chutes through which we can run.

As we proceed, the granite rises higher, until nearly a thousand feet of the lower part of the walls are composed of this rock.

About eleven o'clock we hear a great roar ahead, and approach it very cautiously. The sound grows louder and louder as we run, and at last we find ourselves above a long, broken fall, with ledges and pinnacles of rock obstructing the river. There is a descent of, perhaps, seventy-five or eighty feet in a third of a mile, and the rushing waters break into great waves on the rocks and lash themselves into a mad, white foam. We can land just above, but there is no foothold on either side by which we can make a portage. It is nearly a thousand feet to the top of the granite, so it will be impossible to carry our boats around, though we can climb to the summit up a side gulch and passing along a mile or two, can descend to the river. This we find on ex-

amination; but such a portage would be impracticable for us, and we must run the rapid, or abandon the river. There is no hesitation. We step into our boats, push off, and away we go, first on smooth but swift water, then we strike a glassy wave and ride to its top; down again into the trough, up again on a higher wave, and down and up on waves higher and still higher, until we strike one just as it curls back, and a breaker rolls over our little boat. Still, on we speed, shooting past projecting rocks, till the little boat is caught in a whirlpool and spun around several times. At last we pull out again into the stream, and now the other boats have passed us. The open compartment of the "Emma Dean" is filled with water, and every breaker rolls over us. Hurled back from a rock, now on this side, now on that, we are carried into an eddy, in which we struggle for a few minutes and are then out again, the breakers still rolling over us. Our boat is unmanageable, but she cannot sink, and we drift down another hundred yards through breakers; how, we scarcely know. We find the other boats have turned into an eddy at the foot of the fall, and are waiting to catch us as we come, for the men have seen that our boat is swamped. They push out as we come near, and pull us in against the wall. We bail our boat, and on we go again.

The walls, now, are more than a mile in height—a vertical distance difficult to appreciate. Stand on the south steps of the Treasury Building in Washington, and look down Pennsylvania Avenue to the Capitol Park, and measure this distance overhead, and imagine cliffs to extend to that altitude and you will understand what I mean; or, stand at Canal Street, in New York, and look up Broadway to Grace Church, and you have about the distance; or, stand at Lake Street Bridge in Chicago, and look down to the Central Depot, and you have it again.

A thousand feet of this is up through granite crags, then steep slopes and perpendicular cliffs rise, one above another, to the summit. The gorge is black and narrow below, red and gray and flaring above, with crags and angular projec-

tions on the walls, which, cut in many places by side cañons, seem to be a vast wilderness of rocks. Down in these grand, gloomy depths we glide, ever listening, for the mad waters keep up their roar; ever watching, ever peering ahead, for the narrow cañon is winding and the river is closed in so that we can see but a few hundred yards, and what there may be below we know not; but we listen for falls and watch for rocks, or stop now and then in the bay of a recess, to admire the gigantic scenery. And ever, as we go, there is some new pinnacle or tower, some crag or peak, some distant view of the upper plateau, some strange-shaped rock, or some deep, narrow side cañon. Then we come to another broken fall, which appears more difficult than the one we ran this morning.

A small creek comes in on the right, and the first fall of the water is over bowlders which have been carried down by this lateral stream. We land at its mouth, and stop for an hour or two to examine the fall. It seems possible to let down with lines, at least a part of the way, from point to point, along the right-hand wall. So we make a portage over the first rocks, and find footing on some bowlders below. Then we let down one of the boats to the end of her line, when she reaches a corner of the projecting rock, to which one of the men clings and steadies her, while I examine an eddy below. I think we can pass the other boats down by us, and catch them in the eddy. This is soon done and the men in the boats in the eddy pull us to their side. On the shore of this little eddy there is about two feet of gravel beach above the water. Standing on this beach, some of the men take the line of the little boat and let it drift down against another projecting angle. Here is a little shelf, on which a man from my boat climbs, and a shorter line is passed to him and he fastens the boat to the side of the cliff. Then the second one is let down, bringing the line of the third. When the second boat is tied up, the two men standing on the beach above spring into the last boat, which is pulled up alongside of ours. Then we let down the boats for twenty-five or thirty yards, by walking along the

shelf, landing them again in the mouth of a side cañon. Just below this there is another pile of bowlders, over which we make another portage. From the foot of these rocks we can climb to another shelf, forty or fifty feet above the water.

On this beach we camp for the night. We find a few sticks which have lodged in the rocks. It is raining hard and we have no shelter, but kindle a fire and have our supper. We sit on the rocks all night, wrapped in our ponchos, getting what sleep we can.

August 15.—This morning we find we can let down for three or four hundred yards, and it is managed in this way: We pass along the wall by climbing from projecting point to point, sometimes near the water's edge, at other places fifty or sixty feet above, and hold the boat with a line, while two men remain aboard and prevent her from being dashed against the rocks, and keep the line from getting caught in the wall. In two hours we have brought them all down, as far as it is possible, in this way. A few yards below the river strikes with great violence against a projecting rock, and our boats are pulled up in a little bay above. We must now manage to pull out of this and clear the point below. The little boat is held by the bow obliquely up the stream. We jump in, and pull out only a few strokes, and sweep clear of the dangerous rock. The other boats follow in the same manner, and the rapid is passed.

It is not easy to describe the labor of such navigation. We must prevent the waves from dashing the boats against the cliffs. Sometimes, where the river is swift, we must put a bight of rope about a rock, to prevent her being snatched from us by a wave; but where the plunge is too great, or the chute too swift, we must let her leap, and catch her below, or the undertow will drag her under the falling water, and she sinks. Where we wish to run her out a little way from shore, through a channel between rocks, we first throw in little sticks of driftwood and watch their course, to see where we must steer, so that she will pass the channel in safety. And so we hold, and let go, and pull, and lift, and ward, among rocks, around rocks, and over rocks.

And now we go on through this solemn, mysterious way. The river is very deep, the cañon very narrow, and still obstructed, so that there is no steady flow of the stream; but the waters wheel, and roll, and boil, and we are scarcely able to determine where we can go. Now, the boat is carried to the right, perhaps close to the wall; again, she is shot into the stream, and perhaps is dragged over to the other side, where, caught in a whirlpool, she spins about. We can neither land nor run as we please. The boats are entirely unmanageable; no order in their running can be preserved; now one, now another, is ahead, each crew laboring for its own preservation. In such a place we come to another rapid. Two of the boats run it perforce. One succeeds in landing, but there is no foothold by which to make a portage, and she is pushed out again into the stream. The next minute a great reflex wave fills the open compartment; she is water-logged, and drifts unmanageable. Breaker after breaker roll over her, and one capsizes her. The men are thrown out; but they cling to the boat, and she drifts down some distance, alongside of us, and we are able to catch her. She is soon bailed out, and the men are aboard once more; but the oars are lost, so a pair from the "Emma Dean" is spared. Then for two miles we find smooth water. . . .

August 21.—We start early this morning, cheered by the prospect of a fine day, and encouraged also by the good run made yesterday. A quarter of a mile below camp the river turns abruptly to the left, and between camp and that point is very swift, running down in a long, broken chute, and piling up against the foot of the cliff, where it turns to the left. We try to pull across, so as to go down on the other side, but the waters are swift, and it seems impossible for us to escape the rock below; but, in pulling across, the bow of the boat is turned to the farther shore, so that we are swept broadside down, and are prevented by the rebounding waters from striking against the wall. There we toss about for a few seconds in these billows, and are carried past the danger. Below, the river turns again

to the right, the cañon is very narrow, and we see in advance but a short distance. The water, too, is very swift, and there is no landing-place. From around this curve there comes a mad roar, and down we are carried, with a dizzying velocity, to the head of another rapid. On either side, high over our heads, there are overhanging granite walls, and the sharp bends cut off our view, so that a few minutes will carry us into unknown waters. Away we go, on one long winding chute. I stand on deck, supporting myself with a strap, fastened on either side to the gunwale, and the boat glides rapidly, where the water is smooth, or, striking a wave, she leaps and bounds like a thing of life, and we have a wild, exhilarating ride for ten miles, which we make in less than an hour. The excitement is so great that we forget the danger, until we hear the roar of a great fall below; then we back on our oars, and are carried slowly toward its head, and succeed in landing just above, and find that we have to make another portage. At this we are engaged until some time after dinner.

Just here we run out of the granite!

Ten miles in less than half a day, and limestone walls below. Good cheer returns; we forget the storms, and the gloom, and cloud-covered cañons, and the black granite, and the raging river, and push our boats from shore in great glee.

Though we are out of the granite, the river is still swift, and we wheel about a point again to the right, and turn, so as to head back in the direction from which we come, and see the granite again, with its narrow gorge and black crags; but we meet with no more great falls or rapids. Still, we run cautiously, and stop from time to time, to examine some places which look bad. Yet, we make ten miles this afternoon; twenty miles in all to-day.

August 22.—We come to rapids again this morning, and are occupied several hours in passing them, letting the boats down, from rock to rock, with lines, for nearly half a mile, and then have to make a long portage. While the men are engaged in this, I climb the wall on the northeast,

to a height of about 2500 feet, where I can obtain a good view of a long stretch of cañon below. Its course is to the southwest. The walls seem to rise very abruptly for 2500 or 3000 feet, and then there is a gently sloping terrace on each side for two or three miles, and again we find cliffs 1500 or 2000 feet high. From the brink of these the plateau stretches back to the north and south, for a long distance. Away down the cañon, on the right wall, I can see a group of mountains, some of which appear to stand on the brink of the cañon. The effect of the terrace is to give the appearance of a narrow, winding valley, with high walls on either side, and a deep, dark, meandering gorge down its middle. It is impossible, from this point of view, to determine whether we have granite at the bottom or not; but, from geological considerations, I conclude that we shall have marble walls below.

After my return to the boats, we run another mile and camp for the night.

We have made but little over seven miles to-day, and a part of our flour has been soaked in the river again.

August 23.—Our way to-day is again through marble walls. Now and then we pass, for a short distance, through patches of granite, like hills thrust up into the limestone. At one of these places we have to make another portage, and, taking advantage of the delay, I go up a little stream to the north, wading it all the way, sometimes having to take a plunge in to my neck; in other places being compelled to swim across little basins that have been excavated at the foot of the falls. Along its course are many cascades and springs, gushing out from the rocks on either side. Sometimes a cottonwood tree grows over the water. I come to one beautiful fall, of more than a hundred and fifty feet, and climb around it to the right, on the broken rocks. Still going up, I find the cañon narrowing very much, being but fifteen or twenty feet wide; yet the walls rise on either side many hundreds of feet, perhaps thousands; I can hardly tell.

In some places the stream has not excavated its channel

down vertically through the rocks, but has cut obliquely, so that one wall overhangs the other. In other places it is cut vertically above and obliquely below, or obliquely above and vertically below, so that it is impossible to see out overhead. But I can go no farther. The time which I estimated it would take to make the portage has almost expired, and I start back on a round trot, wading in the creek where I must, and plunging through basins, and find the men waiting for me, and away we go on the river.

Just after dinner we pass a stream on the right, which leaps into the Colorado by a direct fall of more than a hundred feet, forming a beautiful cascade. There is a bed of very hard rock above, thirty or forty feet in thickness, and much softer beds below. The hard beds above project many yards beyond the softer, which are washed out, forming a deep cave behind the fall, and the stream pours through a crevice above into a deep pool below. Around on the rocks, in the cave-like chamber, are set beautiful ferns, with delicate fronds and enameled stalks. The little frondlets have their points turned down, to form spore cases. It has very much the appearance of the maiden's hair fern, but is much larger. This delicate foliage covers the rocks all about the fountain, and gives the chamber great beauty. But we have little time to spend in admiration, so on we go.

We make fine progress this afternoon, carried along by a swift river, and shoot over the rapids, finding no serious obstructions.

The cañon walls, for 2500 or 3000 feet, are very regular, rising almost perpendicularly, but here and there set with narrow steps, and occasionally we can see away above the broad terrace to distant cliffs.

We camp to-night in a marble cave, and find, on looking at our reckoning, we have run twenty-two miles.

August 24.—The cañon is wider to-day. The walls rise to a vertical height of nearly 3000 feet. In many places the river runs under a cliff, in great curves, forming amphitheaters, half-dome shaped.

Though the river is rapid, we meet with no serious ob-

structions, and run twenty miles. It is curious how anxious we are to make up our reckoning every time we stop, now that our diet is confined to plenty of coffee, very little spoiled flour, and very few dried apples. It has come to be a race for a dinner. Still, we make such fine progress, all hands are in good cheer, but not a moment of daylight is lost.

August 25.—We make twelve miles this morning, when we come to monuments of lava, standing in the river; low rocks mostly, but some of them shafts more than a hundred feet high. Going on down, three or four miles, we find them increasing in number. Great quantities of cooled lava and many cinder cones are seen on either side; and then we come to an abrupt cataract. Just over the fall, on the right wall, a cinder cone, or extinct volcano, with a well-defined crater, stands on the very brink of the cañon. This, doubtless, is the one we saw two or three days ago. From this volcano vast floods of lava have been poured into the river, and a stream of the molten rock has run up the cañon, three or four miles, and down, we know not how far. Just where it poured over the cañon wall is the fall. The whole north side, as far as we can see, is lined with the black basalt, and high up on the opposite wall are patches of the same material, resting on the benches, and filling old alcoves and caves, giving to the wall a spotted appearance.

The rocks are broken in two, along a line which here crosses the river, and the beds, which we have seen coming down the cañon for the last thirty miles, have dropped eight hundred feet, on the lower side of the line, forming what geologists call a fault. The volcanic cone stands directly over the fissure thus formed. On the side of the river opposite, mammoth springs burst out of this crevice, one or two hundred feet above the river, pouring in a stream quite equal in volume to the Colorado Chiquito.

This stream seems to be loaded with carbonate of lime, and the water, evaporating, leaves an incrustation on the rocks; and this process has been continued for a long time, for extensive deposits are noticed, in which are basins, with bubbling springs. The water is salty.

We have to make a portage here, which is completed in about three hours, and on we go.

We have no difficulty as we float along, and I am able to observe the wonderful phenomena connected with this flood of lava. The cañon was doubtless filled to a height of twelve or fifteen hundred feet, perhaps by more than one flood. This would dam the water back; and in cutting through this great lava bed, a new channel has been formed, sometimes on one side, sometimes on the other. The cooled lava, being of firmer texture than the rocks of which the walls are composed, remains in some places; in others a narrow channel has been cut, leaving a line of basalt on either side. It is possible that the lava cooled faster on the sides against the walls, and that the center ran out; but of this we can only conjecture. There are other places, where almost the whole of the lava is gone, patches of it only being seen where it has caught on the walls. As we float down, we can see that it ran out into side cañons. In some places this basalt has a fine, columnar structure, often in concentric prisms, and masses of these concentric columns have coalesced. In some places, where the flow occurred, the cañon was probably at about the same depth as it is now, for we can see where the basalt has rolled out on the sands, and, what seems curious to me, the sands are not melted or metamorphosed to any appreciable extent. In places the bed of the river is of sandstone or limestone, in other places of lava, showing that it has all been cut out again where the sandstones and limestones appear; but there is a little yet left where the bed is of lava.

What a conflict of water and fire there must have been here! Just imagine a river of molten rock, running down into a river of melted snow. What a seething and boiling of the waters; what clouds of steam rolled into the heavens!

Thirty-five miles to-day. Hurrah!

August 26.—The cañon walls are steadily becoming higher as we advance. They are still bold, and nearly vertical up to the terrace. We still see evidence of the eruption discovered yesterday, but the thickness of the basalt is

decreasing, as we go down the stream; yet it has been reinforced at points by streams that have come from volcanoes standing on the terrace above, but which we cannot see from the river below.

Since we left the Colorado Chiquito, we have seen no evidences that the tribe of Indians inhabiting the plateaus on either side ever come down to the river; but about eleven o'clock to-day we discover an Indian garden, at the foot of the wall on the right, just where a little stream, with a narrow flood plain, comes down through a side cañon. Along the valley, the Indians have planted corn, using the water which burst out in springs at the foot of the cliff for irrigation. The corn is looking quite well, but is not sufficiently advanced to give us roasting ears; but there are some nice green squashes. We carry ten or a dozen of these on board our boats, and hurriedly leave, not willing to be caught in the robbery, yet excusing ourselves by pleading our great want. We run down a short distance to where we feel certain no Indians can follow; and what a kettle of squash sauce we make! True, we have no salt with which to season it, but it makes a fine addition to our unleavened bread and coffee. Never was fruit so sweet as those stolen squashes. After dinner we push on again, making fine time, finding many rapids, but none so bad that we cannot run them with safety, and when we stop, just at dusk, and foot up our reckoning, we find that we have run thirty-five miles again.

What a supper we make; unleavened bread, green squash sauce, and strong coffee. We have been for a few days on half-rations, but we have no stint of roast squash.

A few days like this, and we are out of prison.

August 29.—We start very early this morning. The river still continues swift, but we have no serious difficulty, and at twelve o'clock emerge from the Grand Cañon of the Colorado.

We are in a valley now, and low mountains are seen in the distance, coming to the river below. We recognize this as the Grand Wash.

A few years ago a party of Mormons set out from St. George, Utah, taking with them a boat, and came down to the mouth of the Grand Wash, where they divided, a portion of the party crossing the river to explore the San Francisco Mountains. Three men—Hamblin, Miller, and Crosby —taking the boat, went on down the river to Callville, landing a few miles below the mouth of the Rio Virgen. We have their manuscript journal with us, and so the stream is comparatively well known.

To-night we camp on the left bank in a mesquit thicket.

The relief from danger and the joy of success are great. When he who has been chained by wounds to a hospital cot, until his canvas tent seems like a dungeon cell, until the groans of those who lie about, tortured with probe and knife, are piled up, a weight of horror on his ears that he cannot throw off, cannot forget, and until the stench of festering wounds and anæsthetic drugs has filled the air with its loathsome burden, at last goes into the open field, what a world he sees! How beautiful the sky; how bright the sunshine; what "floods of delirious music" pour from the throats of birds; how sweet the fragrance of earth and tree and blossom! The first hour of convalescent freedom seems rich recompense for all—pain, gloom, terror.

Something like this are the feelings we experience to-night. Ever before us has been an unknown danger, heavier than immediate peril. Every waking hour passed in the Grand Cañon has been one of toil. We have watched with deep solicitude the steady disappearance of our scant supply of rations, and from time to time have seen the river snatch a portion of the little left, while we were ahungered. And danger and toil were endured in those gloomy depths, where ofttimes the clouds hid the sky by day, and but a narrow zone of stars could be seen at night. Only during the few hours of deep sleep, consequent on hard labor, has the roar of the waters been hushed. Now the danger is over; now the toil has ceased; now the gloom has disappeared; now the firmament is bounded only by the horizon; and what a vast expanse of constellations can be seen!

The river rolls by us in silent majesty; the quiet of the camp is sweet; our joy is almost ecstasy. We sit till long after midnight, talking of the Grand Cañon, talking of home, but chiefly talking of the three men who left us. Are they wandering in those depths, unable to find a way out? are they searching over the desert lands above for water? or are they nearing the settlements?

AMERICA

The Sources of the Mississippi

By ZEBULON M. PIKE

JANUARY 1, 1806.—Passed six very elegant bark canoes on the bank of the river, which had been laid up by the Chipeways; also a camp which we had conceived to have been evacuated about ten days. My interpreter came after me in a great hurry, conjuring me not to go so far ahead, and assured me that the Chipeways, encountering me without an interpreter, party, or flag, would certainly kill me. But, notwithstanding this, I went on several miles farther than usual, in order to make any discoveries that were to be made; conceiving the savages not so barbarous or ferocious as to fire on two men (I had one with me) who were apparently coming into their country, trusting to their generosity; and knowing, that if we met only two or three we were equal to them, I having my gun and pistols and he his buckshot. Made some extra presents for New Year's-day.

January 2.—Fine, warm day. Discovered fresh signs of Indians. Just as we were encamping at night, my sentinel informed us that some Indians were coming at full speed upon our trail or track. I ordered my men to stand by their guns carefully. They were immediately at my camp, and saluted the flag by a discharge of three pieces, when four Chipeways, one Englishman, and a Frenchman of the North West Company presented themselves. They informed us that some women having discovered our trail gave the alarm,

and not knowing but it was their enemies had departed to make a discovery. They had heard of us, and revered our flag. Mr. Grant, the Englishman, had only arrived the day before from Lake de Sable, from which he marched in one day and a half. I presented the Indians with half a deer, which they received thankfully, for they had discovered our fires some days ago, and believing them to be Sioux fires, they dared not leave their camp. They returned home, but Mr. Grant remained all night.

January 3.—My party marched early, but I returned with Mr. Grant to his establishment on the Red Cedar Lake, having one corporal with me. . . . After explaining to a Chipeway warrior, called Curly Head, the object of my voyage, and receiving his answer that he would remain tranquil until my return, we ate a good breakfast for the country, departed and overtook my sleds just at dusk. Killed one porcupine. Distance sixteen miles.

January 4.—We made twenty-eight points in the river; broad, good bottom, and of the usual timber. In the night I was awakened by the cry of the sentinel, calling repeatedly to the men; at length he vociferated, "Will you let the lieutenant be burned to death?" This immediately aroused me; at first I seized my arms, but looking round, I saw my tents in flames. The men flew to my assistance, and we tore them down, but not until they were entirely ruined. This, with the loss of my leggins, moccasins, and socks, which I had hung up to dry, was no trivial misfortune in such a country and on such a voyage. But I had reason to thank God that the powder, three small casks of which I had in my tent, did not take fire; if it had, I must certainly have lost all my baggage, if not my life.

January 5.—Mr. Grant promised to overtake me yesterday, but has not yet arrived. I conceived it would be necessary to attend his motions with careful observation. Distance twenty-seven miles.

January 6.—Bradley and myself walked up thirty-one points in hopes to discover Lake de Sable; but finding a near cut of twenty yards for ten miles, and being fearful the

sleds would miss it, we returned twenty-three points before we found our camp. They had made only eight points. Met two Frenchmen of the North West Company with about one hundred and eighty pounds on each of their backs, with rackets [snowshoes] on; they informed me that Mr. Grant had gone on with the Frenchmen. Snow fell all day, and was three feet deep. Spent a miserable night.

January 7.—Made but eleven miles, and was then obliged to send ahead and make fires every three miles; notwithstanding which, the cold was so intense that some of the men had their noses, others their fingers, and others their toes, frozen, before they felt the cold sensibly. Very severe day's march.

January 8.—Conceiving I was at no great distance from Sandy Lake, I left my sleds and with Corporal Bradley took my departure for that place, intending to send him back the same evening. We walked on very briskly until near night, when we met a young Indian, one of those who had visited my camp near Red Cedar Lake. I endeavored to explain to him that it was my wish to go to Lake de Sable that evening. He returned with me until we came to a trail that led across the woods; this he signified was a near course. I went this course with him, and shortly after found myself at a Chipeway encampment, to which I believed the friendly savage had enticed me with the expectation that I would tarry all night, knowing that it was too late for us to make the lake in good season. But upon our refusing to stay, he put us in the right road. We arrived at the place where the track left the Mississippi at dusk, when we traversed about two leagues of a wilderness without any very great difficulty, and at length struck the shore of Lake de Sable, over a branch of which lay our course. The snow having covered the trail made by the Frenchmen who had passed before us with the rackets, I was fearful of losing ourselves on the lake; the consequences of which can only be conceived by those who have been exposed on a lake or naked plain, in a dreary night of January, in latitude 47°, and the thermometer below zero. Thinking that we could observe

the bank of the other shore, we kept a straight course, and some time after discovered lights, and on our arrival were not a little surprised to find a large stockade. The gate being open, we entered and proceeded to the quarters of Mr. Grant, where we were treated with the utmost hospitality.

January 9.—Sent away the corporal early, in order that our men should receive assurances of our safety and success. He carried with him a small keg of spirits, a present from Mr. Grant. The establishment of this place was formed twelve years since by the North West Company, and was formerly under the charge of Mr. Charles Brusky. It has attained at present such regularity as to permit the superintendent to live tolerably comfortably. They have horses they procure from Red River from the Indians; they raise plenty of potatoes, catch pike, suckers, pickerel and white fish in abundance. They have also beaver, deer and moose; but the provision they chiefly depend upon is wild oats, of which they purchase great quantities from the savages, giving at the rate of about one dollar and a half a bushel. But flour, pork, and salt are almost interdicted to persons not principals in the trade. Flour sells at half a dollar, salt at a dollar, pork at eighty cents, sugar at fifty cents, and tea at four dollars and a half a pound. The sugar is obtained from the Indians, and is made from the maple tree.

January 10.—Mr. Grant accompanied me to the Mississippi, to mark the place for my boats to leave the river. This was the first time I marched on rackets [snowshoes]. I took the course of the Lake River, from its mouth to the lake. Mr. Grant fell through the ice with his rackets on, and could not have got out without assistance.

January 11.—Remained all day within quarters.

January 12.—Went out and met my men about sixteen miles. A tree had fallen on one of them and hurt him very much, which induced me to dismiss a sled and put the loading on the others.

January 13.—After encountering much difficulty we arrived at the establishment of the North West Company on Lake de Sable a little before night. The ice being very bad

on the Lake River, owing to the many springs and marshes, one sled fell through. My men had an excellent room furnished them, and were presented with potatoes and spirits. Mr. Grant had gone to an Indian lodge to receive his credits.

January 14.—Crossed the lake to the north side, that I might take an observation; found the latitude 46° 9′ 20″ N. Surveyed that part of the lake. Mr. Grant returned from the Indian lodges. His party brought a quantity of furs and eleven beaver carcasses.

January 15.—Mr. Grant and myself made the tour of the lake with two men whom I had for attendants. Found it to be much larger than could be imagined at a view. My men sawed stocks for the sleds, which I found it necessary to construct after the manner of the country. On our march, met an Indian coming into the fort; his countenance expressed no little astonishment when I told him who I was and whence I came, for the people of this country acknowledge that the savages hold the Americans in greater veneration than any other white people. They say of us, when alluding to warlike achievements, that "we are neither Frenchmen nor Englishmen, but white Indians."

January 16.—Laid down Lake de Sable. A young Indian whom I had engaged to go as a guide to Lake Sang Sue arrived from the woods.

January 17.—Employed in making sleds after the manner of the country. They are made of a single plank turned up at one end like a fiddle head, and the baggage is lashed on in bags and sacks. Two other Indians arrived from the woods. Engaged in writing.

January 18.—Busy in preparing my baggage for my departure for Leech Lake and Reading.

January 19.—Employed as yesterday. Two men of the North West Company arrived from the Fond du Lac Superior with letters, one of which was from their establishment in Athapuscow, and had been since last May on the route. While at this post I ate roasted beaver, dressed in every respect as a pig is usually dressed with us; it was excellent. I could not discern the least taste of Des Bois. I also ate

boiled moose's head, which when well boiled I consider equal to the tail of the beaver; in taste and substance they are much alike.

January 20.—The men, with their sleds, took their departure about two o'clock. Shortly after I followed them. We encamped at the portage between the Mississippi and Leech Lake River. Snow fell in the night.

January 21.—Snowed in the morning, but crossed about nine o'clock. I had gone on a few points when I was overtaken by Mr. Grant, who informed me that the sleds could not get along in consequence of water being on the ice; he sent his men forward; we returned and met the sleds, which had scarcely advanced one mile. We unloaded them, sent eight men back to the post with whatever might be denominated extra articles, but in the hurry sent my salt and ink. Mr. Grant encamped with me and marched early in the morning.

January 22.—Made a pretty good day's journey. My Indian came up about noon. Distance twenty miles.

January 23.—Marched about eighteen miles. Forgot my thermometer, having hung it on a tree. Sent Boley back five miles for it. My young Indian and myself killed eight partridges; took him to live with me.

January 24.—At our encampment this night; Mr. Grant had encamped on the night of the same day he left me; it was three days' march for us. It was late before the men came up.

January 25.—Traveled almost all day through the lands and found them much better than usual. Boley lost the Sioux pipe-stem which I had carried along for the purpose of making peace with the Chipeways; I sent him back for it; he did not return until eleven o'clock at night. It was very warm; thawing all day. Distance forty-four points.

January 26.—I left my party in order to proceed to a house, or lodge, of Mr. Grant's on the Mississippi, where he was to tarry until I overtook him. Took with me an Indian, Boley, and some trifling provision; the Indian and

myself marched so fast that we left Boley on the route, about eight miles from the lodge. Met Mr. Grant's men, on their return to Lake de Sable, having evacuated the house this morning, and Mr. Grant having marched for Leech Lake. The Indian and I arrived before sundown. Passed the night very uncomfortably, having nothing to eat, not much wood, nor any blankets. The Indian slept sound. I cursed his insensibility, being obliged to content myself over a few coals all night. Boley did not arrive. In the night the Indian mentioned something about his son.

January 27.—My Indian rose early, mended his moccasins, then expressed by signs something about his son and the Englishmen we met yesterday. Conceiving that he wished to send some message to his family, I suffered him to depart. After his departure I felt the curse of solitude, although he was truly no company. Boley arrived about ten o'clock. He said that he had followed us until some time in the night, when, believing that he could overtake us, he stopped and made a fire, but having no axe to cut wood he was near freezing. He met the Indians, who made him signs to go on. I spent the day in putting my gun in order, and mended my moccasins. Provided plenty of wood, still found it cold, with but one blanket.

January 28.—Left our encampment at a good hour; unable to find any trail, passed through one of the most dismal cypress swamps I ever saw and struck the Mississippi at a small lake. Observed Mr. Grant's tracks going through it; found his mark of a cut-off (agreed on between us); took it, and proceeded very well until we came to a small lake, where the trail was entirely hid, but after some search on the other side, found it, when we passed through a dismal swamp, on the other side of which we found a large lake, at which I was entirely at a loss, no trail to be seen. Struck for a point about three miles off, where we found a Chipeway lodge of one man and five children, and one old woman. They received us with every mark that distinguished their barbarity, such as setting their dogs on us, trying to thrust their hands into our pockets, and so on, but

we convinced them that we were not afraid, and let them know that we were Chewockomen (Americans), when they used us more civilly. After we had arranged a camp as well as possible I went into the lodge; they presented me with a plate of dried meat. I ordered Miller to bring about two gills of liquor, which made us all good friends. The old squaw gave me more meat, and offered me tobacco, which, not using, I did not take. I gave her an order upon my corporal for one knife and half a carrot of tobacco. Heaven clothes the lilies and feeds the raven, and the same Almighty Providence protects and preserves these creatures. After I had gone out to my fire, the old man came out and proposed to trade beaver skins for whiskey; meeting with a refusal he left me; when presently the old woman came out with a beaver skin, she also being refused, he again returned to the charge with a quantity of dried meat (this or any other I should have been glad to have had) when I gave him a peremptory refusal; then all further application ceased. It really appeared that with one quart of whiskey I might have bought all they were possessed of. Night remarkably cold, was obliged to sit up nearly the whole of it. Suffered much with cold and from want of sleep.

January 31.—Took my clothes into the Indian's lodge to dress, and was received very coolly, but by giving him a dram (unasked), and his wife a little salt, I received from them directions for my route. Passed the lake or morass, and opened on meadows (through which the Mississippi winds its course) of nearly fifteen miles in length. Took a straight course through them to the head, when I found we had missed the river; made a turn of about two miles and regained it. Passed a fork which I supposed to be Lake Winipie, making the course northwest; the branch we took was on Leech Lake branch, course southwest and west. Passed a very large meadow or prairie, course west, the Mississippi only fifteen yards wide. Encamped about one mile below the traverse of the meadow. Saw a very large animal, which from its leaps I supposed to be a panther; but if so, it was twice as large as those on the lower Mis-

sissippi. He evinced some disposition to approach. I lay down (Miller being in the rear) in order to entice him to come near, but he would not. The night remarkably cold. Some spirits, which I had in a small keg, congealed to the consistency of honey.

February 1.—Left our camp pretty early. Passed a continuous train of prairie, and arrived at Lake Sang Sue at half-past two o'clock. I will not attempt to describe my feelings on the accomplishment of my voyage, for this is the main source of the Mississippi. The Lake Winipie branch is navigable from thence to Red Cedar Lake for the distance of five leagues, which is the extremity of the navigation. Crossed the lake twelve miles to the establishment of the North West Company, where we arrived about three o'clock; found all the gates locked, but upon knocking were admitted and received with marked attention and hospitality by Mr. Hugh McGillis. Had a good dish of coffee, biscuit, butter and cheese for supper.

February 2.—Remained all day within doors. In the evening sent an invitation to Mr. Anderson, who was an agent of Dickson, and also for some young Indians at his house, to come over and breakfast in the morning.

February 3.—Spent the day in reading Volney's "Egypt," proposing some queries to Mr. Anderson, and preparing my young men to return with a supply of provisions to my party.

February 4.—Miller departed this morning. Mr. Anderson returned to his quarters. My legs and ankles were so much swelled that I was not able to wear my own clothes, and was obliged to borrow some from Mr. McGillis.

February 5.—One of Mr. McGillis's clerks had been sent to some Indian lodges, and expected to return in four days, but had now been absent nine. Mr. Grant was dispatched, in order to find out what had become of him.

February 6.—My men arrived at the fort about four o'clock. Mr. McGillis asked if I had any objection to his hoisting their flag in compliment to ours. I made none, as I had not yet explained to him my ideas. In making a

traverse of the lake some of my men had their ears, some their noses, and others their chins frozen.

February 7.—Remained within doors, my limbs being still very much swelled. Addressed a letter to Mr. McGillis on the subject of the North West Company's trade in this quarter.

February 8.—Took the latitude and found it to be 47° 16′ 13″. Shot with our rifles.

February 9.—Mr. McGillis and myself paid a visit to Mr. Anderson, an agent of Mr. Dickson, of the lower Mississippi, who resided at the west end of the lake. Found him eligibly situated as to trade, but his houses bad. I rode in a cariole, for one person, constructed in the following manner: Boards planed smooth, turned up in front about two feet, coming to a point; about two and a half feet wide behind, on which is fixed a box covered with dressed skins painted; this box is open at the top, but covered in front about two-thirds of the length. The horse is fastened between the shafts. The rider wraps himself up in a buffalo robe, sits flat down, having a cushion to lean his back against. Thus accoutered with a fur cap, and so on, he may bid defiance to the wind and weather. Upon our return we found that some of the Indians had already returned from the hunting camps; also Monsieur Roussand, the gentleman supposed to have been killed by the Indians. His arrival with Mr. Grant diffused a general satisfaction through the fort.

February 10.—Hoisted the American flag in the fort.

February 11.—The Sweet, Buck, Burnt, and others arrived, all chiefs of note, but the former in particular, a venerable old man. From him I learned that the Sioux occupied this ground when, to use his own phrase, "He was made a man and began to hunt; that they occupied it the year that the French missionaries were killed at the river Pacagama." The Indians flocked in.

February 12.—Bradley and myself with Mr. McGillis and two of his men left Leech Lake at ten o'clock, and arrived at the house of Red Cedar Lake at sunset, a dis-

tance of thirty miles. My ankles were very much swelled, and I was very lame. From the entrance of the Mississippi to the strait is called six miles—a southwest course. Thence to the south end, south thirty, east four miles. The bay at the entrance extends nearly east and west six miles. About two and a half from the north side to a large point. This may be called the upper source of the Mississippi, being fifteen miles above little Lake Winipie, and the extent of canoe navigation only two leagues to some of the Hudson's Bay waters.

AMERICA

Expedition to the Pacific Ocean

By CAPTAINS LEWIS AND CLARKE

EARLY in November, 1805, they set off in company with some Indians who had joined them the evening before. At the distance of three miles they passed a river on the left, to which, from the quantity of sand it bears along with it, they gave the name of Quicksand River. So great, indeed, was the quantity it had discharged into the Columbia, that the river was compressed to the width of half a mile and the whole force of the current thrown against the right shore. Opposite this was a large creek, which they called Seal River. The mountain which they had supposed to be the Mount Hood of Vancouver, now bore S. 85° E., about forty-seven miles distant. About three miles farther on they passed the lower mouth of Quicksand River, opposite to which was another large creek, and near it the head of an island three miles and a half in extent, and half a mile beyond it was another island, which they called Diamond Island, opposite to which they encamped, having made but thirteen miles' distance. Here they met with some Indians ascending the river, who stated that they had seen three vessels at its mouth.

Below Quicksand River, the country is low, rich, and thickly wooded on each side of the Columbia; the islands have less timber, and on them are numerous ponds, near which were vast quantities of fowl, such as swan, geese, brant, cranes, storks, white gulls, cormorants, and plover.

The river is wide and contains a great number of sea-otters. In the evening the hunters brought in game for a sumptuous supper.

In continuing their descent the next day, they found Diamond Island to be six miles in length and three broad, and near its termination were two other islands. "Just below the last of these," proceeds their narrative, "we landed on the left bank of the river, at a village of twenty-five houses, all of which were thatched with straw and built of bark except one, which was about fifty feet long and constructed of boards, in the form of those higher up the river, from which it differed, however, in being completely above ground and covered with broad, split boards. This village contained about two hundred men of the Skilloot nation, who seemed well provided with canoes, of which there were at least fifty-two, and some of them very large, drawn up in front of the village. On landing, we found an Indian from above, who had left us this morning, and who now invited us into a lodge of which he appeared to be part owner. Here he treated us with a root, round in shape and about the size of a small Irish potato, which they call *wappatoo;* it is the common arrowhead or *sagittifolia* so much cultivated by the Chinese, and when roasted in the embers till it becomes soft, has an agreeable taste and is a very good substitute for bread. After purchasing some of this root we resumed our journey, and at seven miles' distance came to the head of a large island near the left bank. On the right shore was a fine open prairie for about a mile, back of which the country rises, and is well supplied with timber, such as white oak, pine of different kinds, wild crab, and several species of undergrowth, while along the borders of the river there were only a few cotton-wood and ash trees. In this prairie were also signs of deer and elk.

"When we landed for dinner a number of Indians came down for the purpose, as we supposed, of paying us a friendly visit, as they had put on their finest dresses. In addition to their usual covering, they had scarlet and blue blankets, sailors' jackets and trousers, shirts, and hats.

They had all of them either war-axes, spears, and bows and arrows, or muskets and pistols, with tin powder-flasks. We smoked with them and endeavored to show them every attention, but soon found them very assuming and disagreeable companions. While we were eating they stole the pipe with which they were smoking and a great coat of one of the men. We immediately searched them all, and found the coat stuffed under the root of a tree near where they were sitting; but the pipe we could not recover. Finding us discontented with them, and determined not to suffer any imposition, they showed their displeasure in the only way they dared, by returning in ill humor to their village. We then proceeded, and soon met two canoes, with twelve men of the same Skilloot nation, who were on their way from below. The larger of the canoes was ornamented with the figures of a bear in the bow and a man in the stern, both nearly as large as life, both made of painted wood, and very neatly fastened to the boat. In the same canoe were two Indians gaudily dressed, and with round hats. This circumstance induced us to give the name of Image Canoe to the large island, the lower end of which we were now passing, at the distance of nine miles from its head. We had seen two smaller islands to the right and three more near its lower extremity. . . . The river was now about a mile and a half in width, with a gentle current, and the bottoms extensive and low, but not subject to be overflowed. Three miles below Image Canoe Island we came to four large houses on the left side; here we had a full view of the mountain which we had first seen from the Musselshell Rapid on the nineteenth of October, and which we now found to be, in fact, the Mount St. Helen of Vancouver. It bore north 25° east, about ninety miles distant, rose in the form of a sugar loaf to a very great height and was covered with snow. A mile lower we passed a single house on the left, and another on the right. The Indians had now learned so much of us that their curiosity was without any mixture of fear, and their visits became very frequent and troublesome. We therefore continued on till after night, in

hopes of getting rid of them; but, after passing a village on each side, which, on account of the lateness of the hour we could only see indistinctly, we found there was no escaping from their importunities. We accordingly landed at the distance of seven miles below Image Canoe Island, and encamped near a single house on the right, having made during the day twenty-nine miles.

"The Skilloots that we passed to-day speak a language somewhat different from that of the Echeloots or Chilluckittequaws near the long narrows. Their dress, however, is similar, except that the Skilloots possess more articles procured from the white traders; and there is this farther difference between them, that the Skilloots, both males and females, have the head flattened. Their principal food is fish, *wappatoo* roots, and some elk and deer, in killing which with arrows they seem to be very expert, for during the short time we remained at the village three deer were brought in. We also observed there a tame *blaireau* [badger].

"As soon as we landed we were visited by two canoes loaded with Indians, from whom we purchased a few roots. The grounds along the river continued low and rich, and among the shrubs were large quantities of vines resembling the raspberry. On the right the low grounds were terminated at the distance of five miles by a range of high hills covered with tall timber, and running south-east and north-west. The game, as usual, was very abundant; and, among other birds, we observed some white geese, with a part of their wings black."

Early the next morning they resumed their voyage, passing several islands in the course of the day, the river alternately widening and contracting, and the hills sometimes retiring from, and at others approaching, its banks. They stopped for the night at the distance of thirty-two miles from their last encampment. . . .

"*November 7.*—The morning," proceeds the narrative, "was rainy, and the fog so thick that we could not see across the river. We observed, however, opposite to our

camp, the upper point of an island, between which and the steep hills on the right we proceeded for five miles. Three miles lower was the beginning of an island, separated from the right shore by a narrow channel; down this we proceeded under the direction of some Indians whom we had just met going up the river and who returned in order to show us their village. It consisted of four houses only, situated on this channel behind several marshy islands formed by two small creeks. On our arrival they gave us some fish and we afterwards purchased *wappatoo* roots, fish, three dogs, and two otter-skins, for which we gave fish-hooks chiefly, that being an article which they are very anxious to obtain.

"These people seemed to be of a different nation from those we had just passed; they were low in stature, ill-shaped, and all had their heads flattened. They called themselves Wahkiacum, and their language differed from that of the tribes above, with whom they trade for *wappatoo* roots. The houses, too, were built in a different style, being raised entirely above ground, with the eaves about five feet high, and the door at the corner. Near the end opposite to the door was a single fireplace, round which were the beds, raised four feet from the floor of earth; over the fire were hung fresh fish, and when dried they are stowed away with the *wappatoo* roots under the beds. The dress of the men was like that of the people above; but the women were clad in a peculiar manner, the robe not reaching lower than the hip, and the body being covered in cold weather by a sort of corset of fur, curiously plaited and reaching from the arms to the hip; added to this was a sort of petticoat, or rather, tissue of white cedar bark, bruised or broken into small strands and woven into a girdle by several cords of the same material. Being tied round the middle, these strands hang down as low as the knee in front and to the middle of the leg behind; sometimes the tissue consists of strings of silk-grass, twisted and knotted at the end.

"After remaining with them about an hour, we proceeded down the channel with an Indian dressed in a sailor's

jacket for our pilot; and, on reaching the main channel, were visited by some Indians, who have a temporary residence on a marshy island, Tenasillihee, in the middle of the river, where there are great numbers of water-fowl. Here the mountainous country again approaches the river on the left and a higher saddle mountain is perceived towards the south-west. At a distance of twenty miles from our camp we halted at a village of Wahkiacums, consisting of seven ill-looking houses, built in the same form with those above, and situated at the foot of the high hills on the right, behind two small marshy islands. We merely stopped to purchase some food and two beaver skins, and then proceeded. Opposite to these islands the hills on the left retire, and the river widens into a kind of bay, crowded with low islands, subject to be overflowed occasionally by the tide. We had not gone far from this village when the fog suddenly clearing away, we were at last presented with a glorious sight of the ocean—that ocean, the object of all our labors, the reward of all our anxieties. This animating sight exhilarated the spirits of all the party, who were still more delighted on hearing the distant roar of the breakers. We went on with great cheerfulness along the high mountainous country which bordered the right bank; the shore, however, was so bold and rocky that we could not, until at a distance of fourteen miles from the last village, find any spot fit for an encampment. Having made during the day thirty-four miles, we now spread our mats on the ground, and passed the night in the rain. Here we were joined by our small canoe, which had been separated from us during the fog this morning. Two Indians from the last village also accompanied us to the camp; but having detected them in stealing a knife, they were sent off.

"*November 8.*—It rained this morning; and, having changed our clothing, which had been wet by yesterday's rain, we set out at nine o'clock. Immediately opposite our camp was a pillar rock, at the distance of a mile in the river, about twenty feet in diameter and fifty in height, and towards the south-west some high mountains, one of which

was covered with snow at the top. We proceeded past several low islands in the bend or bay of the river to the left, which were here five or six miles wide. On the right side we passed an old village, and then, at the distance of three miles, entered an inlet or niche, about six miles across, and making a deep bend of nearly five miles into the hills on the right shore, where it receives the waters of several creeks. We coasted along this inlet, which, from its little depth, we called Shallow Bay, and at the bottom of it stopped to dine near the remains of an old village, from which, however, we kept at a cautious distance, as, like all these places, it was occupied by a plentiful stock of fleas. At this place we observed a number of fowl, among which we killed a goose and two ducks exactly resembling in appearance and flavor the canvas-back duck of the Susquehanna. After dinner we took advantage of the returning tide to go about three miles to a point on the right, eight miles distant from our camp; but here the water ran so high and washed about our canoe so much that several of the men became seasick. It was therefore judged imprudent to proceed in the present state of the weather, and we landed at the point. Our situation here was extremely uncomfortable; the high hills jutted in so closely that there was not room for us to lie level, nor to secure our baggage from the tide, and the water of the river was too salty to be used; but the waves increasing so much that we could not move from the spot with safety, we fixed ourselves on the beach left by the ebb-tide, and, raising the baggage on poles, passed a disagreeable night, the rain during the day having wet us completely, as, indeed, we had been for some time past.

"*November 9.*—Fortunately the tide did not rise as high as our camp during the night; but, being accompanied by high winds from the south, the canoes, which we could not place beyond its reach, were filled with water and saved with much difficulty; our position was exceedingly disagreeable; but, as it was impossible to move from it, we waited for a change of weather. It rained, however, during the whole day, and at two o'clock in the afternoon the flood-

tide came in, accompanied by a high wind from the south, which at about four o'clock shifted to the south-west, and blew almost a gale directly from the sea. Immense waves now broke over the place where we were and large trees some of them five or six feet through, which had been lodged on the point, drifted over our camp, so that the utmost vigilance of every man could scarcely save the canoes from being crushed to pieces. We remained in the water and were drenched with rain during the rest of the day, our only sustenance being some dried fish and the rain water which we caught. Yet, though wet and cold, and some of them sick from using salt water, the men were cheerful and full of anxiety to see more of the ocean. The rain continued all night and the following morning.

"*November 10.*—The wind lulling and the waves not being so high, we loaded our canoes and proceeded. The mountains on the right are here high, covered with timber, chiefly pine, and descend with a bold and rocky shore to the water. We went through a deep niche and several inlets on the right, while on the opposite side was a large bay, above which the hills are close on the river. At the distance of ten miles the wind rose from the north-west, and the waves became so high that we were forced to return two miles for a place where we could unload with safety. Here we landed at the mouth of a small run, and, having placed our baggage on a pile of drifted logs, waited until low water. The river then appearing more calm, we started again; but after going a mile found the waters too turbulent for our canoes, and were obliged to put to shore. Here we landed the baggage, and having placed it on a rock above the reach of the tide, encamped on some drift logs, which formed the only place where we could lie, the hills rising steep over our heads to the height of five hundred feet. All our baggage, as well as ourselves, was thoroughly wet with rain, which did not cease during the day; it continued, indeed, violently through the night, in the course of which the tide reached the logs on which we lay, and set them afloat.

"*November 11.*—The wind was still high from the south-

west, and drove the waves against the shore with great fury; the rain, too, fell in torrents, and not only drenched us to the skin, but loosened the stones on the hillsides, so that they came rolling down upon us. In this comfortless condition we remained all day, wet and cold, and with nothing but dried fish to satisfy our hunger; the canoes at the mercy of the waves at one place, the baggage in another, and the men scattered on floating logs, or sheltering themselves in the crevices of the rocks and hillsides. A hunter was dispatched in the hope of finding some game but the hills were so steep, and so covered with undergrowth and fallen timber, that he could not proceed, and was forced to return. About twelve o'clock we were visited by five Indians in a canoe. They came from the opposite side of the river, above where we were, and their language much resembled that of the Wahkiacums; they calling themselves Cathlamahs. In person they were small, ill-made, and badly clothed; though one of them had on a sailor's jacket and pantaloons, which, as he explained by signs, he had received from the whites below the point. We purchased from them thirteen red charr, a fish which we found very excellent. After some time they went on board their boat and crossed the river, which is here five miles wide, through a very heavy sea.

"*November 12.*—About three o'clock a tremendous gale of wind arose, accompanied with lightning, thunder, and hail; at six it lightened up for a short time, but a violent rain soon began and lasted through the day. During the storm one of our boats, secured by being sunk with great quantities of stone, got loose, but, drifting against a rock, was recovered without having received much injury. Our situation now became much more dangerous, for the waves were driven with fury against the rocks and trees, which till now had afforded us refuge; we therefore took advantage of the low tide, and moved about half a mile round a point to a small brook, which we had not observed before on account of the thick bushes and driftwood which concealed its mouth. Here we were more safe, but still cold and wet; our clothes

and bedding rotten as well as wet, our baggage at a distance, and the canoes, our only means of escape from this place, at the mercy of the waves. Still, we continued to enjoy good health, and even had the luxury of feasting on some salmon and three salmon trout which we caught in the brook. Three of the men attempted to go round a point in our small Indian canoe, but the high waves rendered her quite unmanageable, these boats requiring the seamanship of the natives to make them live in so rough a sea.

"*November 13.*—During the night we had short intervals of fair weather, but it began to rain in the morning and continued through the day. In order to obtain a view of the country below, Captain Clarke followed the course of the brook, and with much fatigue, and after walking three miles, ascended the first spur of the mountains. The whole lower country he found covered with almost impenetrable thickets of small pine, with which is mixed a species of plant resembling arrow-wood, twelve or fifteen feet high, with thorny stems, almost interwoven with each other, and scattered among the fern and fallen timber; there is also a red berry, somewhat like the Solomon's seal, which is called by the natives *solme*, and used as an article of diet. This thick growth rendered traveling almost impossible, and it was rendered still more fatiguing by the abruptness of the mountain, which was so steep as to oblige him to draw himself up by means of the bushes. The timber on the hills is chiefly of a large, tall species of pine, many of the trees eight or ten feet in diameter at the stump, and rising sometimes more than one hundred feet in height. The hail which fell two nights before was still to be seen on the mountains; there was no game, and no marks of any, except some old tracks of elk. The cloudy weather prevented his seeing to any distance, and he therefore returned to camp and sent three men in an Indian canoe to try if they could double the point and find some safer harbor for our boats. At every flood-tide the sea broke in great swells against the rocks and drifted the trees against our establishment, so as to render it very insecure.

"*November 14.*—It had rained without intermission during the night and continued to through the day; the wind, too, was very high, and one of our canoes much injured by being driven against the rocks. Five Indians from below came to us in a canoe, and three of them landed, and informed us that they had seen the men sent down yesterday. Fortunately, at this moment one of the men arrived, and told us that these very Indians had stolen his gig and basket; we therefore ordered the two women, who remained in the canoe, to restore them; but this they refused to do till we threatened to shoot them, when they gave back the articles, and we commanded them to leave us. They were of the Wahkiacum nation. The man now informed us that they had gone round the point as far as the high sea would suffer them in the canoe, and then landed; that in the night he had separated from his companions, who had proceeded farther down; and that, at no great distance from where we were, was a beautiful sand beach and a good harbor. Captain Lewis determined to examine more minutely the lower part of the bay, and, embarking in one of the large canoes, was put on shore at the point, whence he proceeded by land with four men, and the canoe returned nearly filled with water.

"*November 15.*—It continued raining all night, but in the morning the weather became calm and fair. We began, therefore, to prepare for setting out; but before we were ready a high wind sprang up from the south-east, and obliged us to remain. The sun shone until one o'clock, and we were thus enabled to dry our bedding and examine our baggage. The rain, which had continued for the last ten days without any interval of more than two hours, had completely wet all our merchandise, spoiled some of our fish, destroyed the robes, and rotted nearly one-half of our few remaining articles of clothing, particularly the leather dresses. About three o'clock the wind fell, and we instantly loaded the canoes, and left the miserable spot to which we had been confined the last six days. On turning the point we came to the sand beach, through which runs a small stream from the hills, at the mouth of which was an

ancient village of thirty-six houses, without any inhabitants at the time except fleas. Here we met Shannon, who had been sent back to us by Captain Lewis. The day Shannon left us in the canoe, he and Willard proceeded on till they met a party of twenty Indians, who, not having heard of us, did not know who they were; but they behaved with great civility—so great, indeed, and seemed so anxious that our men should accompany them toward the sea, that their suspicions were aroused, and they declined going. The Indians, however, would not leave them; and the men, becoming confirmed in their suspicions, and fearful, if they went into the woods to sleep, that they would be cut to pieces in the night, thought it best to remain with the Indians; they therefore made a fire, and after talking with them to a late hour, laid down with their rifles under their heads. When they awoke they found that the Indians had stolen and concealed their arms; and having demanded them in vain, Shannon seized a club, and was about assaulting one of the Indians whom he suspected to be the thief, when another of them began to load his fowling-piece with the intention of shooting him. He therefore stopped, and explained to them by signs, that if they did not give up the guns, a large party would come down the river before the sun rose to a certain height, and put every one of them to death. Fortunately, Captain Lewis and his party appeared at this very time, and the terrified Indians immediately brought the guns, and five of them came in with Shannon. To these men we declared that, if ever any of their nation stole anything from us, he would be instantly shot. They resided to the north of this place, and spoke a language different from that of the people higher up the river. It was now apparent that the sea was at all times too rough for us to proceed farther down the bay by water; we therefore landed, and, having chosen the best spot we could, made our camp of boards from the old village. We were now comfortably situated, and, being visited by four Wahkiacums with *wappatoo* roots, were enabled to make an agreeable addition to our food.

"*November 16.*—The morning was clear and pleasant. We therefore put out all our baggage to dry, and sent several of our party to hunt. Our camp was in full view of the ocean, on the bay laid down by Vancouver, which we distinguished by the name of Haley's Bay, from a trader who visits the Indians here, and is a great favorite among them. The meridian altitude of this day gave 46° 19′ 11.7″ as our latitude. The wind was strong from the south-west, and the waves were very high, yet the Indians were passing up and down the bay in canoes, and several of them encamped near us. We smoked with them, but, after our recent experience of their thievish disposition, treated them with caution." . . .

"The hunters brought in two deer, a crane, some geese and ducks, and several brant, three of which were white, except a part of the wing, which was black, and they were much larger than the gray brant.

"*November 17.*—A fair, cool morning, and easterly wind. The tide rises at this place eight feet six inches.

"About one o'clock Captain Lewis returned, after having coasted down Haley's Bay to Cape Disappointment, and some distance to the north, along the sea-coast. He was followed by several Chinnooks, among whom were the principal chief and his family. They made us a present of a boiled root very much like the common licorice in taste and size, called *culwhamo*, and in return we gave them articles of double its value. We now learned, however, the danger of accepting anything from them, since nothing given in payment, even though ten times more valuable, would satisfy them. We were chiefly occupied in hunting, and were able to procure three deer, four brant and two ducks, and also saw some signs of elk. Captain Clarke now prepared for an excursion down the bay, and accordingly started.

"*November 18.*—At daylight, accompanied by eleven men, he proceeded along the beach one mile to a point of rocks about forty feet high, where the hills retired, leaving a wide beach and a number of ponds covered with water-

fowl, between which and the mountain there was a narrow bottom covered with alder and small balsam trees. Seven miles from the rocks was the entrance from the creek, or rather drain from the pond and hills, where was a cabin of Chinnooks. The cabin contained some children and four women. They were taken across the creek in a canoe by two squaws, to each of whom they gave a fish-hook, and then, coasting along the bay, passed at two miles the low bluff of a small hill, below which were the ruins of some old huts, and close to it the remains of a whale. The country was low, open, and marshy, interspersed with some high pine and with a thick undergrowth. Five miles from the creek, they came to a stream, forty yards wide at low water, which they called Chinnook River. The hills up this river and toward the bay were not high, but very thickly covered with large pine of several species."

Proceeding along the shore, they came to a deep bend, appearing to afford a good harbor, and here the natives told them that European vessels usually anchored. About two miles farther on they reached Cape Disappointment, "an elevated circular knob," says the Journal, "rising with a steep ascent one hundred and fifty or one hundred and sixty feet above the water, formed like the whole shore of the bay, as well as of the sea-coast, and covered with thick timber on the inner side, but open and grassy on the exposure next the sea. From this cape a high point of land bears south 20° west, about twenty-five miles distant. In the range between these two eminences is the opposite point of the bay, a very low ground, which has been variously called Cape Rond by Le Perouse, and Point Adams by Vancouver. The water for a great distance off the mouth of the river appears very shallow, and within the mouth, nearest to Point Adams, is a large sand-bar, almost covered at high tide." . . .

"*November 19.*—In the evening it began to rain, and continued until eleven o'clock. Two hunters were sent out in the morning to kill something for breakfast, and the rest of the party, after drying their blankets, soon followed. At

three miles they overtook the hunters, and breakfasted on a small deer which they had been fortunate enough to kill. This, like all those that we saw on the coast, was much darker than our common deer. Their bodies, too, are deeper, their legs shorter, and their eyes larger. The branches of the horns are similar, but the upper part of the tail is black, from the root to the end, and they do not leap, but jump like a sheep frightened."

Continuing along five miles farther, they reached a point of high land, below which a sandy point extended in a direction north 19° west to another high point twenty miles distant. To this they gave the name of Point Lewis. They proceeded four miles farther along the sandy beach to a small pine tree, on which Captain Clarke marked his name, with the year and day, and then set out to return to the camp, where they arrived the following day, having met a large party of Chinnooks coming from it.

"*November 21.*—The morning was cloudy, and from noon till night it rained. The wind, too, was high from the south-east, and the sea so rough that the water reached our camp. Most of the Chinnooks returned home, but we were visited in the course of the day by people of different bands in the neighborhood, among whom were the Chiltz, a nation residing on the sea-coast near Point Lewis, and the Clatsops, who live immediately opposite, on the south side of the Columbia. A chief from the grand rapid also came to see us, and we gave him a medal. To each of our visitors we made a present of a small piece of ribbon, and purchased some cranberries, and some articles of their manufacture, such as mats and household furniture, for all of which we paid high prices."

AMERICA

Arctic Perils

By ELISHA KENT KANE

IN launching the "Hope" from the frail and perishing ice-wharf on which we found our first refuge from the gale, she was precipitated into the sledge below, carrying away rail and bulwark, losing overboard our best shot-gun, Bonsall's favorite, and, worst of all, that universal favorite, our kettle—soup-kettle, paste-kettle, tea-kettle, water-kettle, in one. I may mention before I pass that the kettle found its substitute and successor in the remains of a tin can which a good aunt of mine had filled with ginger-nuts two years before, and which had long survived the condiments that once gave it dignity. "Sweet are the uses of adversity."

Our descent to the coast followed the margin of the fast ice. After passing the Crimson Cliffs of Sir John Ross it wore almost the dress of a holiday excursion—a rude one, perhaps, yet truly one in feeling. Our course, except where a protruding glacier interfered with it, was nearly parallel to the shore. The birds along it were rejoicing in the young summer, and when we halted it was upon some green-clothed cape near a stream of water from the ice-fields above. Our sportsman would clamber up the cliffs and come back laden with little auks; great generous fires of turf, that cost nothing but the toil of gathering, blazed merrily; and our happy oarsmen, after a long day's work, made easy by the promise ahead, would stretch themselves in the sunshine and dream happily away till called to the morning

wash and prayers. We enjoyed it the more, for we all of us knew that it could not last.

This coast must have been a favorite region at one time with the natives—a sort of Esquimaux Eden. We seldom encamped without finding the ruins of their habitations, for the most part overgrown with lichens, and exhibiting every mark of antiquity. One of these, in latitude 76° 20′, was once, no doubt, an extensive village. Cairns for the safe deposit of meat stood in long lines, six or eight in a group; and the huts, built of large rocks, faced each other, as if disposed on a street or avenue.

The same reasoning which deduces the subsidence of the coast from the actual base of the Temple of Serapis, proves that the depression of the Greenland coast, which I had detected as far north as Upernavik, is also going on up here. Some of these huts were washed by the sea or torn away by the ice that had descended with the tides. The turf, too, a representative of very ancient growth, was cut even with the water's edge, giving sections two feet thick. I had not noticed before such unmistakable evidence of the depression of this coast; its converse elevation I had observed to the north of Wostenholme Sound. The axis of oscillation must be somewhere in the neighborhood of latitude 77°.

We reached Cape York on the twenty-first of July, after a tortuous but romantic travel through a misty atmosphere. Here the land-leads ceased, with the exception of some small and scarcely practicable openings near the shore, which were evidently owing to the wind that prevailed for the time. Everything bore proof of the late development of the season. The red snow was a fortnight behind its time. A fast floe extended with numerous tongues far out to the south and east. The only question was between a new rest, for the shore-ices to open, or a desertion of the coast and a trial of the open water to the west. . . .

I climbed the rocks a second time with Mr. McGary, and took a careful survey of the ice with my glass. The "fast," as the whalers call the immovable shore-ice, could be seen in a nearly unbroken sweep, passing by Bushnell's

THE FARTHEST POINT NORTH.

Island, and joining the coast not far from where I stood. The outside floes were large, and had evidently been not long broken; but it cheered my heart to see that there was one well-defined lead which followed the main floe until it lost itself to seaward.

I called my officers together, explained to them the motives which governed me, and prepared to re-embark. The boats were hauled up, examined carefully, and, as far as our means permitted, repaired. The "Red Eric" was stripped of her outfit and cargo, to be broken up for fuel when the occasion should come. A large beacon-cairn was built on an eminence, open to view from the south and west, and a red flannel shirt, spared with some reluctance, was hoisted as a pennant to draw attention to the spot. Here I deposited a succinct record of our condition and purposes, and then directed our course south by west into the ice-fields.

By degrees the ice through which we were moving became more and more impacted, and it sometimes required all our ice-knowledge to determine whether a particular lead was practicable or not. The irregularities of the surface, broken by hummocks, and occasionally by larger masses, made it difficult to see far ahead, beside which we were often embarrassed by the fogs. I was awakened one evening from a weary sleep in my fox-skins to discover that we had fairly lost our way. The officer at the helm of the leading boat, misled by the irregular shape of a large iceberg that crossed his track, had lost the main lead some time before, and was steering shoreward, far out of the true course. The little canal in which he had locked us was hardly two boats'-lengths across, and lost itself not far off in a feeble zigzag both behind and before us; it was evidently closing, and we could not retreat.

Without apprising the men of our misadventure, I ordered the boats hauled up, and, under pretence of drying the clothing and stores, made a camp on the ice. A few hours after the weather cleared enough for the first time to allow a view of the distance, and McGary and myself climbed a berg some three hundred feet high for the purpose. It

was truly fearful; we were deep in the recesses of the bay, surrounded on all sides by stupendous icebergs and tangled floe-pieces. My sturdy second officer, not naturally impressible and long accustomed to the vicissitudes of whaling life, shed tears at the prospect.

There was one thing to be done; cost what it might, we must harness our sledges again and retrace our way to the westward. One sledge had been already used for firewood; the "Red Eric," to which it had belonged, was now cut up, and her light cedar planking laid upon the floor of the other boats, and we went to work with the rue-raddies as in the olden time. It was not till the third toilsome day was well spent that we reached the berg that had bewildered our helmsman. We hauled over its tongue and joyously embarked again upon a free lead, with a fine breeze from the north.

Our little squadron was now reduced to two boats. The land to the northward was no longer visible, and whenever I left the margin of the fast to avoid its deep sinuosities, I was obliged to trust entirely to the compass. We had at least eight days' allowance of fuel on board; but our provisions were running very low, and we met few birds, and failed to secure any larger game. We saw several large seals upon the ice, but they were too watchful for us; and on two occasions we came upon the walrus sleeping, once within actual lance-thrust; but the animal charged in the teeth of his assailant and made good his retreat.

On the twenty-eighth I instituted a quiet review of the state of things before us. Our draft on the stores we had laid in at Providence Halt had been limited for some days to three raw eggs and two breasts of birds a day, but we had a small ration of bread-dust beside; and when we halted, as we did regularly for meals, our fuel allowed us to indulge lavishly in the great panacea of Arctic travel, tea. The men's strength was waning under this restricted diet, but a careful reckoning up of our remaining supplies proved to me now that even this was more than we could afford ourselves without an undue reliance on the fortunes of the hunt. Our

next land was to be Cape Shackleton, one of the most prolific bird-colonies of the coast, which we were all looking to, much as sailors nearing home in their boats after disaster and short allowance at sea. But, meting out our stores through the number of days that must elapse before we could expect to share its hospitable welcome, I found that five ounces of bread-dust, four of tallow, and three of bird-meat must from this time form our daily ration.

So far we had generally coasted the fast ice; it had given us an occasional resting-place and refuge, and we were able sometimes to reinforce our stores of provisions by our guns. But it made our progress tediously slow, and our stock of small shot was so nearly exhausted that I was convinced our safety depended on increase of speed. I determined to try the more open sea.

For the first two days the experiment was a failure. We were surrounded by heavy fogs; a south-west wind brought the outside pack upon us, and obliged us to haul up on the drifting ice. We were thus carried to the northward, and lost about twenty miles. My party, much overworked, felt despondingly the want of the protection of the land-floes.

Nevertheless, I held to my purpose, steering south-south-west as nearly as the leads would admit, and looking constantly for the thinning out of the pack that hangs around the western water.

Although the low diet and exposure to wet had again reduced our party, there was no apparent relaxation of energy, and it was not until some days later that I found their strength seriously giving way.

It is a little curious that the effect of a short allowance of food does not show itself in hunger. The first symptom is a loss of power, often so imperceptibly brought on that it becomes evident only by an accident. I well remember our look of blank amazement as, one day, the order being given to haul the "Hope" over a tongue of ice, we found she would not budge. At first I thought it was owing to the wetness of the snow-covered surface in which her runners were; but, as there was a heavy gale blowing outside,

and I was extremely anxious to get her on to a larger floe to prevent being drifted off, I lightened her cargo and set both crews upon her. In the land of promise off Crimson Cliff such a force would have trundled her like a wheelbarrow; we could almost have borne her upon our backs. Now with incessant labor and standing hauls she moved at a snail's pace.

The "Faith" was left behind and barely escaped destruction. The outside pressure cleft the floe asunder, and we saw our best boat with all our stores drifting rapidly away from us. The sight produced an almost hysterical impression upon our party.

Two days of want of bread, I am sure, would have destroyed us; and we had now left us but eight pounds of shot in all. To launch the "Hope" again, and rescue her comrade or share her fortunes, would have been the instinct of other circumstances; but it was out of the question now. Happily, before we had time to ponder our loss a flat cake of ice eddied round near the floe we were upon; McGary and myself sprang to it at the moment, and succeeded in floating it across the chasm in time to secure her. The rest of the crew rejoined her only by scrambling over the crushed ice as we brought her in at the hummock-lines.

Things grew worse and worse with us; the old difficulty of breathing came back again, and our feet swelled to such an extent that we were obliged to cut open our canvas boots. But the symptom which gave me most uneasiness was our inability to sleep. A form of low fever which hung by us when at work had been kept down by the thoroughness of our daily rest; all my hopes of escape were in the refreshing influences of the halt.

It must be remembered that we were now in the open bay, in the full line of the great ice-drift to the Atlantic, and in boats so frail and unseaworthy as to require constant bailing to keep them afloat.

It was at this crisis of our fortunes that we saw a large seal floating—as is the custom of these animals—on a small patch of ice, and seemingly asleep. It was an ussuk, and

so large that I at first mistook it for a walrus. Signal was made for the "Hope" to follow astern, and, trembling with anxiety, we prepared to crawl down upon him.

Petersen, with the large English rifle, was stationed in the bow and stockings were drawn over the oars as mufflers. As we neared the animal our excitement became so intense that the men could hardly keep stroke. I had a set of signals for such occasions which spared us the noise of the voice, and when about three hundred yards off the oars were taken in, and we moved in deep silence with a single scull astern.

He was not asleep, for he reared his head when we were almost within rifle-shot; and to this day I can remember the hard, careworn, almost despairing expression of the men's thin faces as they saw him move; their lives depended on his capture.

I depressed my hand nervously, as a signal for Petersen to fire. McGary hung upon his oar, and the boat, slowly but noiselessly sagging ahead, seemed to me within certain range. Looking at Petersen, I saw that the poor fellow was paralyzed by his anxiety, trying vainly to obtain a rest for his gun against the cut-water of the boat. The seal rose on his fore-flippers, gazed at us for a moment with frightened curiosity, and coiled himself for a plunge. At that instant, simultaneously with the crack of our rifle, he relaxed his long length on the ice, and, at the very brink of the water, his head fell helpless to one side.

I would have ordered another shot, but no discipline could have controlled the men. With a wild yell, each vociferating according to his own impulse, they urged both boats upon the floe. A crowd of hands seized the seal and bore him up to safer ice. The men seemed half crazy; I had not realized how much we were reduced by absolute famine. They ran over the floe crying and laughing and brandishing their knives. It was not five minutes before every man was sucking his bloody fingers or mouthing long strips of raw blubber.

Not an ounce of this seal was lost. The intestines found

their way into the soup-kettles without any observance of the preliminary home processes. The cartilaginous parts of the fore-flippers were cut off in the *mêlée* and passed round to be chewed upon; and even the liver, warm and raw as it was, bade fair to be eaten before it had seen the pot. That night, on the large halting floe, to which, in contempt of the dangers of drifting, we happy men had hauled our boats, two entire planks of the "Red Eric" were devoted to a grand cooking-fire, and we enjoyed a rare and savage feast.

This was our last experience of the disagreeable effects of hunger. In the words of George Stephenson, "The charm was broken, and the dogs were safe." The dogs I have said little about, for none of us liked to think of them. The poor creatures Toodla and Whitey had been taken with us as last resources against starvation. They were, as McGary worded it, "meat on the hoof," and "able to carry their own fat over the floes." Once, near Weary Man's Rest, I had been on the point of killing them; but they had been the leaders of our winter's team, and we could not bear the sacrifice.

I need not detail our journey any farther. Within a day or two we shot another seal, and from that time forward had a full supply of food. . . . Two days after this, a mist had settled down upon the islands which embayed us, and when it lifted we found ourselves rowing in lazy time, under the shadow of Karkamoot. Just then a familiar sound came to us over the water. We had often listened to the screeching of the gulls or the bark of the fox and mistaken it for the "Huk" of the Esquimaux, but this had about it an inflection not to be mistaken, for it died away in the familiar cadence of an "halloo."

"Listen, Petersen! Oars, men!" "What is it?" and he listened quietly at first, and then, trembling, said in a half-whisper, "Dannemarkers!"

I remember this, the first tone of Christian voice which had greeted our return to the world. How we all stood up and peered into the distant nooks; and how the cry came

to us again, just as, having seen nothing, we were doubting whether the whole was not a dream; and then how, with long sweeps, the white ash cracking under the spring of the rowers, we stood for the cape that the sound proceeded from, and how nervously we scanned the green spots which our experience, grown now into instinct, told us would be the likely camping-ground of wayfarers.

By and by—for we must have been pulling a good-half-hour—the single mast of a small shallop showed itself; and Petersen, who had been very quiet and grave, burst into an incoherent fit of crying, only relieved by broken exclamations of mingled Danish and English. "'Tis the Upernavik oil-boat! The 'Fräulein Flaischer!' Carlie Mossyn, the assistant cooper, must be on his road to Kingatok for blubber. The 'Mariane' (the one annual ship) has come, and Carlie Mossyn—" and here he did it all over again, gulping down his words and wringing his hands.

It was Carlie Mossyn, sure enough. The quiet routine of a Danish settlement is the same year after year, and Petersen had hit upon the exact state of things. The "Mariane" was at Proven, and Carlie Mossyn had come up in the "Fräulein Flaischer" to get the year's supply of blubber from Kingatok.

AMERICA

Life and Scenery in Venezuela

By ALEXANDER VON HUMBOLDT

WE returned to the valley of Aragua and stopped at the farm of Barbula. We had heard of a tree called the cow-tree, the sap of which is a nourishing milk, and here we found one.

When incisions are made in the trunk of this tree, it yields abundance of a glutinous milk, tolerably thick, devoid of all acridity, and of an agreeable and balmy smell. It was offered to us in the shell of a calabash. We drank considerable quantities of it in the evening before we went to bed, and very early in the morning, without feeling the least injurious effect. The glutinous character of this milk alone renders it a little disagreeable. The negroes and the free people who work in the plantations drink it, dipping into it their bread of maize or cassava. The overseer of the farm told us that the negroes grow sensibly fatter during the season when the *palo de vaca* furnishes them with most milk. The juice, exposed to the air, presents at its surface membranes of a strongly animalized substance, yellowish, stringy, and resembling cheese.

Amidst the great number of curious phenomena which I have observed in the course of my travels, I confess there are few that have made so powerful an impression on me as the aspect of the cow-tree. Whatever relates to milk or to corn inspires an interest which is not merely that of the

physical knowledge of things, but is connected with another order of ideas and sentiments. We can scarcely conceive how the human race could exist without farinaceous substances, and without that nourishing juice which the breast of the mother contains, and which is appropriated to the long feebleness of the infant. The amylaceous matter of corn, the object of religious veneration among so many nations, ancient and modern, is diffused in the seeds and deposited in the roots of vegetables; milk, which serves as an aliment, appears to us exclusively the produce of animal organization. Such are the impressions we have received in our earliest infancy; such is also the source of that astonishment created by the aspect of the tree just described. It is not here the solemn shades of forests, the majestic course of rivers, the mountains wrapped in eternal snow, that excite our emotion. A few drops of vegetable juice recall to our minds all the powerfulness and the fecundity of nature. On the barren flank of a rock grows a tree with coriaceous and dry leaves. Its large woody roots can scarcely penetrate into the stone. For several months of the year not a single shower moistens its foliage. Its branches appear dead and dried; but when the trunk is pierced there flows from it a sweet and nourishing milk. It is at the rising of the sun that this vegetable fountain is most abundant. The negroes and natives are then seen hastening from all quarters, furnished with large bowls to receive the milk, which grows yellow and thickens at its surface. Some empty their bowls under the tree itself, others carry the juice home to their children. . . .

The sun was almost at its zenith; the earth, wherever it appeared sterile and destitute of vegetation, was at the temperature of 120°. Not a breath of air was felt at the height at which we were on our mules; yet, in the midst of this apparent calm, whirls of dust incessantly arose, driven on by those small currents of air which glide only over the surface of the ground, and are occasioned by the difference of temperature between the naked sand and the spots covered with grass. All around us the plains seemed to ascend

to the sky, and the vast and profound solitude appeared like an ocean covered with sea-weed. On the horizon the earth was confounded with the sky. Through the dry mist and strata of vapor the trunks of palm-trees were seen from afar, stripped of their foliage and their verdant summits, and looking like the masts of a ship descried upon the horizon. There is something awful, as well as sad and gloomy, in the uniform aspect of these steppes. Everything seems motionless; scarcely does a small cloud, passing across the zenith, and denoting the approach of the rainy season, cast its shadow on the earth. I know not whether the first aspect of the llanos excites less astonishment than that of the chain of the Andes.

When, beneath the vertical rays of the bright and cloudless sun of the tropics, the parched sward crumbles into dust, then the indurated soil cracks and bursts as if rent asunder by some mighty earthquake. And if, at such a time, two opposite currents of air, by conflict moving in rapid gyrations, come in contact with the earth, a singular spectacle presents itself. Like funnel-shaped clouds, their apexes touching the earth, the sand rises in vapory form through the rarefied air in the electrically-charged center of the whirling current, sweeping on like the rushing water-spout, which strikes such terror into the heart of the mariner. A dim and sallow light gleams from the lowering sky over the dreary plain. The horizon suddenly contracts, and the heart of the traveler sinks with dismay as the wide steppe seems to close upon him on all sides. The hot and dusty earth forms a cloudy vail which shrouds the heavens from view, and increases the stifling oppression of the atmosphere, while the east wind, when it blows over the long-heated soil, instead of cooling, adds to the burning glow. Gradually, too, the pools of water which had been protected from evaporation by the now seared foliage of the fan-palm, disappear. As in the icy north animals became torpid from cold, so here the crocodile and the boa-constrictor lie wrapped in unbroken sleep, deeply buried in the dried soil. Everywhere the drought announces death, yet everywhere

the thirsty wanderer is deluded by the phantom of a moving, undulating, watery surface, created by the deceptive play of the mirage. A narrow stratum separates the ground from the distant palm-trees, which seem to hover aloft, owing to the contact of currents of air having different degrees of heat, and therefore of density. Shrouded in dark clouds of dust, and tortured by hunger and burning thirst, oxen and horses scour the plain, the one bellowing dismally, the other with outstretched necks snuffing the wind, in the endeavor to detect, by the moisture of the air, the vicinity of some pool of water not yet wholly evaporated.

The mule, more cautious and cunning, adopts another method of allaying his thirst. There is a globular and articulated plant, the *Melo-cactus*, which encloses under its prickly integument an aqueous pulp. After carefully striking away the prickles with its forefeet, the mule cautiously ventures to apply his lips to imbibe the cooling thistle juice. But the draught from this living vegetable spring is not always unattended by danger, and these animals are often observed to have been lamed by the puncture of the cactus thorn. Even if the burning heat of day be suceeded by the cool freshness of the night, here always of equal length, the wearied ox and horse enjoy no repose. Huge bats now attack the animals during sleep, and vampire-like suck their blood; or, fastening on their backs, raise festering wounds, in which mosquitoes, hippobosces, and a host of other stinging insects burrow and nestle.

When, after a long drought, the genial season of rain arrives, the scene suddenly changes. The deep azure of the hitherto cloudless sky assumes a lighter hue. Scarcely can the dark space in the constellation of the Southern Cross be distinguished at night. The mild phosphorescence of the Magellenic clouds fades away. Like some distant mountain, a single cloud is seen rising perpendicularly on the southern horizon. Misty vapors collect and gradually overspread the heavens, while distant thunder proclaims the approach of the vivifying rain. Scarcely is the surface of the earth moistened before the teeming steppe becomes covered

with a variety of grasses. Excited by the power of light, the herbaceous mimosa unfolds its dormant, drooping leaves, hailing, as it were, the rising sun in chorus with the matin song of the birds and the opening flowers of aquatic plants. Horses and oxen, buoyant with life and enjoyment, roam over and crop the plains. The luxuriant grass hides the beautifully spotted jaguar, who, lurking in safe concealment, and carefully measuring the extent of his leap, darts, like the Asiatic tiger, with a cat-like bound upon his passing prey. At times, according to the accounts of the natives, the humid clay on the banks of the morasses is seen to rise slowly in broad flakes. Accompanied with a violent noise, as on the eruption of a small mud-volcano, the upheaved earth is hurled high into the air. Those who are familiar with the phenomenon fly from it; for a colossal water-snake, or a mailed and scaly crocodile, awakened from its trance by the first fall of rain, is about to burst from its tomb.

When the rivers bounding the plain to the south, as the Arauca, the Apure, and the Payara, gradually overflow their banks, nature compels those creatures to live as amphibious animals, which, during the first half of the year, were perishing with thirst on the waterless and dusty plain. A part of the steppe now presents the appearance of a vast inland sea. The mares retreat with their foals to the higher banks, which project, like islands, above the spreading waters. Day by day the dry surface diminishes in extent. The cattle, crowded together, and deprived of pasturage, swim for hours about the inundated plain, seeking a scanty nourishment from the flowing panicles of the grasses which rise above the lurid and bubbling waters. Many foals are drowned, many are seized by crocodiles, crushed by their serrated tails, and devoured. Horses and oxen may not unfrequently be seen which have escaped from the fury of this bloodthirsty and gigantic lizard, bearing on their legs the marks of its pointed teeth. . . .

Below the mission of Santa Barbara de Arichuna we passed the night as usual in the open air, on a sandy flat, on the bank of the Apure, skirted by the impenetrable forest.

We had some difficulty in finding dry wood to kindle the fires with which it is here customary to surround the bivouac, as a safeguard against the attacks of the jaguar. The air was bland and soft and the moon shone brightly. Several crocodiles approached the bank; and I have observed that fire attracts these creatures as it does our crabs and many other aquatic animals. The oars of our boats were fixed upright in the ground, to support our hammocks. Deep stillness prevailed, only broken at intervals by the blowing of the fresh-water dolphins, which are peculiar to the river network of the Orinoco.

After eleven o'clock such a noise began in the contiguous forest, that for the remainder of the night all sleep was impossible. The wild cries of animals rang through the woods. Among the many voices which resounded together, the Indians could only recognize those which, after short pauses, were heard singly. There was the monotonous, plaintive cry of the howling monkeys, the whining, flute-like notes of the small sapajous, the grunting murmur of the striped nocturnal ape, the fitful roar of the great tiger, the cougar, or maneless American lion, the peccary, the sloth, and a host of parrots, parraquas, and other pheasant-like birds. Whenever the tigers approached the edge of the forest, our dog, who before had barked incessantly, came howling to seek protection under the hammocks. Sometimes the cry of the tiger resounded from the branches of a tree, and was always then accompanied by the plaintive, piping tones of the apes, who were endeavoring to escape from the unwonted pursuit.

If one asks the Indians why such a continuous noise is heard on certain nights, they answer, with a smile, that "the animals are rejoicing in the beautiful moonlight, and celebrating the return of the full moon." To me the scene appeared rather to be owing to an accidental, long-continued, and gradually increasing conflict among the animals. Thus, for instance, the jaguar will pursue the peccaries and the tapirs, which, densely crowded together, burst through the barrier of tree-like shrubs which opposes their flight. Ter-

rified at the confusion, the monkeys on the tops of the trees join their cries with those of the larger animals. This arouses the tribes of birds who built their nests in communities, and suddenly the whole animal world is in a state of commotion. Further experience taught us that it was by no means always the festival of moonlight that disturbed the stillness of the forest; for we observed that the voices were loudest during violent storms of rain, or when the thunder echoed and the lightning flashed through the depths of the wood. The good-natured Franciscan monk who accompanied us through the cataracts of Apures and Maypures to San Carlos, on the Rio Negro, and to the Brazilian frontier, used to say, when apprehensive of a storm at night, "May Heaven grant a quiet night both to us and to the wild beasts of the forest!" . . .

The new canoe intended for us was, like all Indian boats, a trunk of a tree hollowed out partly by the hatchet and partly by fire. It was forty feet long and three broad. Three persons could not sit in it side by side. These canoes are so crank, and they require, from their instability, a cargo so equally distributed, that when you want to rise for an instant you must warn the rowers to lean to the opposite side. Without this precaution the water would necessarily enter the side pressed down. It is difficult to form an idea of the inconveniences that are suffered in such wretched vessels. To gain something in breadth, a sort of lattice-work had been constructed on the stern with branches of trees that extended on each side beyond the gunwale. Unfortunately, the *toldo*, or roof of leaves, that covered this lattice-work, was so low that we were obliged to lie down, without seeing anything, or, if seated, to sit nearly double. The necessity of carrying the canoe across the rapids, and even from one river to another, and the fear of giving too much hold to the wind, by making the toldo higher, render this construction necessary for vessels that go up toward the Rio Negro. The toldo was intended to cover four persons, lying on the deck or lattice-work of brush-wood; but our legs reached far beyond it, and when it rained half our bodies

ALEXANDER VON HUMBOLDT

were wet. Our couches consisted of ox-hides or tiger-skins spread upon branches of trees, which were painfully felt through so thin a covering. The fore part of the boat was filled with Indian rowers, furnished with paddles, three feet long, in the form of spoons. They were all naked, seated two by two, and they kept time in rowing with a surprising uniformity, singing songs of a sad and monotonous character. The small cages containing our birds and our monkeys—the number of which augmented as we advanced—were hung some to the toldo and others to the bow of the boat. This was our traveling menagerie. Every night, when we established our watch, our collection of animals and our instruments occupied the center; around these were placed, first, our hammocks, then the hammocks of the Indians; and on the outside were the fires, which are thought indispensable against the attacks of the jaguar. About sunrise the monkeys in our cages answered the cries of the monkeys of the forest.

In a canoe not three feet wide, and so encumbered, there remained no other place for the dried plants, trunks, sextant, a dipping needle, and the meteorological instruments, than the space below the lattice-work of branches, on which we were compelled to remain stretched the greater part of the day. If we wished to take the least object out of a trunk, or to use an instrument, it was necessary to row ashore and land. To these inconveniences were joined the torment of the mosquitoes which swarmed under the toldo, and the heat radiated from the leaves of the palm-trees, the upper surface of which was continually exposed to the solar rays. We attempted every instant, but always without success, to amend our situation. While one of us hid himself under a sheet to ward off the insects, the other insisted on having green wood lighted beneath the toldo, in the hope of driving away the mosquitoes by the smoke. The painful sensations of the eyes, and the increase of heat, already stifling, rendered both these contrivances alike impracticable. With some gayety of temper, with feelings of mutual good-will, and with a vivid taste for the majestic grandeur

of these vast valleys of rivers, travelers easily support evils that become habitual. . . .

The lower strata of air, from the surface of the ground to the height of fifteen or twenty feet, are absolutely filled with venomous insects. If in an obscure spot, for instance, in the grottos of the cataracts formed by superincumbent blocks of granite, you direct your eyes towards the opening enlightened by the sun, you see clouds of mosquitoes more or less thick. I doubt whether there be a country upon earth where man is exposed to more cruel torments in the rainy season. Having passed the fifth degree of latitude you are somewhat less stung; but on the upper Orinoco the stings are more painful, because the heat and the absolute want of wind render the air more burning and more irritating in its contact with the skin. "How comfortable people must be in the moon!" said a Salive Indian to Father Gumilla. "She looks so beautiful and so clear, that she must be free from mosquitoes." These words, which denote the infancy of a people, are very remarkable. The satellite of the earth appears to all savage nations the abode of the blessed, the country of abundance. The Esquimaux, who counts among his riches a plank or the trunk of a tree, thrown by the currents on a coast destitute of vegetation, sees in the moon plains covered with forests; the Indian of the forest of Orinoco there beholds open savannas, where the inhabitants are never stung by mosquitoes.

It would be difficult for me to express the satisfaction we felt on landing at Angostura [the capital of Spanish Guiana]. The inconveniences endured at sea in small vessels are trivial in comparison with those that are suffered under a burning sky, surrounded by swarms of mosquitoes, and lying stretched in a canoe, without the possibility of taking the least bodily exercise. In seventy-five days we had performed a passage of five hundred leagues—twenty to a degree—on the five great rivers, Apure, Orinoco, Atabapo, Rio Negro, and Cassiquiare; and in this vast extent we had found but a very small number of inhabited places. Coming

from an almost desert country, we were struck with the bustle of the town, though it contained only 6000 inhabitants. We admired the conveniences which industry and commerce furnish to civilized man. Humble dwellings appeared to us magnificent; and every person with whom we conversed seemed to be endowed with superior intelligence. Long privations give a value to the smallest enjoyments; and I cannot express the pleasure we felt when we saw for the first time wheaten bread on the governor's table.

EUROPE

Spanish Life in Granada

By THÉOPHILE GAUTIER

WE often went to San Domingo to sit beneath the shade of the laurels, and bathe in a pool, near which, if the satirical songs are to be believed, the monks used to lead no very reputable sort of life. It is a remarkable fact that the most Catholic countries are always those in which the priests and monks are treated most cavalierly; the Spanish songs and stories about the clergy rival in license the facetiæ of Rabelais and Beroalde de Verville, and to judge by the manner in which all the ceremonies of the church are parodied in the old pieces, one would hardly think that the Inquisition ever existed.

Talking of baths, I will here relate a little incident which proves that the thermal art, carried to so high a degree of perfection by the Arabs, has lost much of its former splendor in Granada. Our guide took us to some baths that appeared very well managed, the rooms being situated round a patio shaded by a covering of vine-leaves, while a large reservoir of very limpid water occupied the greater part of the patio. So far all was well; but of what do you think the baths themselves were made? of copper, zinc, stone, or wood? Not a bit of it; you are wrong. I will tell you at once, for you will never guess; they were enormous clay jars, like those made to hold oil. These novel baths were about two-thirds buried in the ground. Before putting

ourselves in them we had the inside covered with a clean cloth, a piece of precaution which struck the attendant as something so extremely strange, and which astonished him so profoundly, that we were obliged to repeat the order several times before he would obey it. He explained this whim of ours to his own satisfaction by shrugging his shoulders and shaking his head in a commiserative manner as he pronounced in a low voice the one word: *Inglese.* There we sat, squatted down in our oil jars, with our heads stuck out at the top, like peasants *en terrine*, cutting rather grotesque figures. It was on this occasion that I understood for the first time the story of "Ali Baba and the Forty Thieves," which had always struck me as being rather difficult to believe, and had made me for an instant doubt the veracity of the "Thousand and One Nights."

There are, also, in the Albaycin, some old Moorish baths, and a pond covered over with a vaulted roof, pierced by a number of little holes in the shape of stars, but they are not in working order, and you can get nothing but cold water.

This is about all that is to be seen at Granada, during a stay of some weeks. Public amusements are scarce. The theater is closed during the summer; the bull-fights do not take place at any fixed periods; there are no clubs or establishments of this description, and the Lyceum is the only place where it is possible to see the French and other foreign papers. On certain days there is a meeting of the members, when they read papers on various subjects as well as poetry, besides singing and playing pieces, generally written by some young author of the company.

Every one employs his time, most conscientiously, in doing nothing. Gallantry, cigarettes, the manufacture of quatrains and octaves, and especially card-playing, are found sufficient to fill up a man's existence very agreeably. In Granada you see nothing of that furious restlessness, that necessity for action and change of place, which torments the people of the North. The Spanish struck me as being very philosophical. They attach hardly any importance to na-

tional life, and are totally indifferent about comfort. The thousand factitious wants, created by the civilization of northern countries, appear to them puerile and troublesome refinements. Not having to protect themselves continually against the climate, the advantages of the English home have no attractions in their eyes. What do people who would cheerfully pay for a breeze or a draught of air, if they could obtain such a thing, care whether or not the windows close properly? Favored by a beautiful sky, they have reduced human existence to its simplest expression; this sobriety and moderation in everything enables them to enjoy a large amount of liberty, a state of extreme independence; they have time enough to live, which we cannot say that we have. Spaniards cannot understand how a man can labor first in order to rest afterwards. They very much prefer pursuing an opposite course, and I think that by so doing, they show their superior sense. A workman who has earned a few reals leaves his work, throws his fine embroidered jacket over his shoulders, takes his guitar and goes and dances, or makes love to the *majas* of his acquaintance until he has not a single *cuarto* left; he then returns to his employment. An Andalusian can live splendidly for three or four sous a day; for this sum he can have the whitest bread, an enormous slice of watermelon, and a small glass of aniseed, while his lodgings cost him nothing more than the trouble of spreading his cloak upon the ground under some portico or the arch of some bridge. As a general rule, Spaniards consider work something humiliating, and unworthy of a freeman, which, in my opinion, is a natural and very reasonable idea, since Heaven, wishing to punish man for his disobedience, found no greater infliction than the obliging him to gain his daily bread by the sweat of his brow. Pleasures procured as ours are by dint of labor, fatigue, and mental anxiety and perseverance, strike Spaniards as being bought much too dearly. Like all people who lead a simple life, approaching a state of nature, they possess a correctness of judgment which makes them despise the artificial enjoyments of society. Any one coming from

Paris or London, those two whirlpools of devouring activity, of feverish and unnaturally excited energy, is greatly surprised by the mode of life of the people of Granada—a mode of life that is all leisure, filled up with conversation, siestas, promenades, music, and dancing. The stranger is astonished at the happy calmness, the tranquil dignity of the faces he sees around him. No one has that busy look which is noticeable in the persons hurrying through the streets of Paris. Every one strolls leisurely along, choosing the shady side of the street, stopping to chat with his friends, and betraying no desire to arrive at his destination in the shortest possible time. The certitude of not being able to make money extinguishes all ambition; there is no chance of a young man making a brilliant career. The most adventurous among them go to Manila or Havana, or enter the army, but on account of the piteous state of the public finances, they sometimes wait for years without hearing anything about pay. Convinced of the inutility of exertion, Spaniards do not endeavor to make fortunes, for they know that such things are quite out of the question; and they therefore pass their time in a delightful state of idleness, favored by the beauty of the country and the heat of the climate.

I saw nothing of Spanish pride; nothing is so deceptive as the reputation bestowed on individuals and nations. On the contrary, I found them exceedingly simple-minded and good-natured; Spain is the true country of equality, if not in words, at least in deeds. The poorest beggar lights his *papelito* at the *puro* of a powerful nobleman, who allows him to do so without the slightest affectation of condescension; a marchioness will step with a smile over the bodies of the ragged vagabonds who are slumbering across the threshold, and when traveling will not make a face if compelled to drink out of the same glass as the *mayoral*, the *zagul*, and the *escopetero* of the diligence. Foreigners find great difficulty in accustoming themselves to this familiarity, especially the English, who have their letters brought upon salvers, and take them with tongs. An Englishman traveling from Seville to Jeres, told his *calesero* to go and get his dinner in

the kitchen. The *calesero*, who, in his own mind, thought he was honoring a heretic very highly by sitting down at the same table with him, did not make the slightest remark, but concealed his rage as carefully as the villain in a melodrama; but about three or four leagues from Jeres, in the midst of a frightful desert, full of quagmires and bushes, he threw the Englishman very neatly out of the vehicle, shouting to him as he whipped on his horse: "My lord, you did not think me worthy of sitting at your table, and I, Don José Balbrino Bustamente y Orosco, do not think you good enough to sit on the seat in my calesin. Good evening!"

The servants, both male and female, are treated with a gentle familiarity very different from our affected civility, which seems every moment to remind them of the inferiority of their condition. A short example will prove the truth of this assertion. We had gone to a party given at the country-house of the Señora ——; in the evening there was a general desire to have a little dancing, but there were a great many more ladies than gentlemen present. To obviate this difficulty, the Señora —— sent for the gardener and another servant, who danced the whole evening without the least awkwardness, false bashfulness, or servile forwardness, but just as if they had been on a perfect equality with the rest of the company. They invited, in turn, the fairest and most noble ladies present, and the latter complied with their request in the most graceful manner possible. Our democrats are very far from having attained this practical equality, and our most determined republicans would revolt at the idea of figuring in a quadrille opposite a peasant or a footman.

Of course, there are a great many exceptions to these remarks, as there are to all other generalities. There are doubtless many Spaniards who are active, laborious, and sensible to all the refinements of life, but what I have said conveys the general impression felt by a traveler after a stay of some little time—an impression which is often more correct than that of a native observer, who is less struck by the novelty of the various circumstances.

Ascent of the Sierra Nevada

As our curiosity was satisfied with regard to Granada and its buildings, we resolved, from having had a view of the Sierra Nevada at every turn we took, to become more intimately acquainted with it, and endeavor to ascend the Mulhacen, which is the most elevated point of the range. Our friends at first attempted to dissuade us from this project, which was really attended with some little danger, but, on seeing that our resolution was fixed, they recommended us a huntsman whose name was Alexandro Romero, as a person thoroughly acquainted with the mountains, and possessing every qualification to act as guide. He came and saw us at our *casa de pupilos*, and his manly, frank physiognomy immediately prepossessed us in his favor. He wore an old velvet waistcoat, a red woolen sash, and white linen gaiters, like those of the Valencians, which enabled you to see his clean-made, nervous legs, tanned like Cordovan leather. Alpargatas of twisted rope served him for shoes, while a little Andalusian hat, which had grown red from exposure to the sun, a carbine and a powder-flask, slung across his shoulder, completed his costume. He undertook to make all the necessary preparations for our expedition, and promised to bring, at three o'clock the next morning, the four horses we required, one for my traveling companion, one for myself, a third for a young German who had joined our caravan, and a fourth for our servant, who was intrusted with the direction of the culinary department. As for Romero, he was to walk. Our provisions consisted of a ham, some roast fowls, some chocolate, bread, lemons, sugar, and a large leathern sack called a *bota*, filled with excellent Val-de-Penas, which was the principal article in the list.

At the appointed hour the horses were before our house, while Romero was hammering away at the door, with the butt-end of his carbine. Still scarcely awake, we mounted our steeds, and the procession set forth, our guide running

on beforehand to point out the road. Although it was already light, the sun had not risen, and the undulating outlines of the smaller hills which we had passed were spread out all around us, cool, limpid, and blue, like the waves of an immovable ocean. In the distance, Granada had disappeared beneath the vaporized atmosphere. When the fiery globe at last appeared on the horizon, all the hill-tops were covered with a rosy tint, like so many young girls at the sight of their lovers, and appeared to experience a feeling of bashful confusion at the idea of having been seen in their morning *déshabillé*. The ridges of the mountains are connected with the plain by gentle slopes, forming the first table-land which is easily accessible. When we reached this place, our guide decided that we should allow our horses a little breathing time, give them something to eat, and breakfast ourselves. We ensconced ourselves at the foot of a rock, near a little spring, the water of which was as bright as a diamond, and sparkled beneath the emerald-colored grass. Romero, with all the dexterity of an American savage, improvised a fire with a handful of brush-wood, while Louis prepared some chocolate, which, with the addition of a slice of ham and a draught of wine, composed our first meal in the mountains. While our breakfast was cooking, a superb viper passed beside us, and appeared surprised and dissatisfied at our installing ourselves on his estate, a fact that he gave us to understand by impolitely hissing at us, for which he was rewarded by a sturdy thrust with a sword-stick through the stomach. A little bird, that had watched the proceedings very attentively, no sooner saw the viper disabled than it flew up with the feathers of its neck standing on end, its eyes all fire, and flapping its wings, and piping in a strange state of exultation. Every time that any portion of the venomous beast writhed convulsively, the bird shrunk back, soon returning to the charge, however, and pecking the viper with its beak, after which it would rise in the air three or four feet. I do not know what the serpent could have done during its lifetime to the bird, or what was the feeling of hatred we had gratified by killing

the viper, but it is certain that I never beheld such an amount of delight.

We once again set out. From time to time we met a string of little asses coming down from the higher parts of the mountains with their load of snow, which they were carrying to Granada for the day's consumption. The drivers saluted us as they passed by, with the time-honored "Vayan Ustedes con Dios," and we replied by some joke about their merchandise, which would never accompany them as far as the city, and which they would be obliged to sell to the official who was intrusted with the duty of watering the public streets.

We were always preceded by Romero, who leaped from stone to stone with the agility of a chamois, and kept exclaiming *Bueno camino* (a good road). I should certainly very much like to know what the worthy fellow would call a bad road, for, as far as I was concerned, I could not perceive the slightest signs of any road at all. To our right and left, as far as the eye could distinguish, yawned delightful abysses very blue, very azure, and very vapory, varying in depth from 1500 to 2000 feet, a difference, however, about which we troubled ourselves very little, for a few dozen fathoms, more or less, made very little difference in the matter. I recollect, with a shudder, a certain pass, three or four pistol-shots long, and two broad—a sort of natural plank running between two gulfs. As my horse headed the procession, I had to pass first over this kind of tight-rope, which would have made the most determined acrobats pause and reflect. At certain points there was just enough width for my horse's feet, and each of my legs was dangling over a separate abyss. I sat motionless in my saddle, as upright as if I had been balancing a chair on the end of my nose. This pass, which took us a few minutes to traverse, struck me as particularly long.

When I quietly reflect on this incredible ascent, I am lost in surprise, as at the remembrance of some incoherent dream. We passed over spots where a goat would have hesitated to have set its foot, and scaled precipices so steep

that the ears of our horses touched our chins. Our road lay between rocks and blocks of stone, which threatened to fall down upon us every moment, and in zigzags along the edge of the most frightful precipices. We took advantage of every favorable opportunity, and although advancing slowly, we still advanced, gradually approaching the goal of our ambition—namely, the summit, that we had lost sight of since we had been in the mountains, because each separate piece of table-land hides the one above it.

Every time our horses stopped to take breath we turned round in our saddles to contemplate the immense panorama formed by the circular canvas of the horizon. The mountain tops which lay below us looked as if they had been marked out in a large map. The Vega of Granada, and all Andalusia, presented the appearance of an azure sea, in the midst of which a few white points that caught the rays of the sun, represented the sails of the different vessels. The neighboring eminences that were completely bare, and cracked and split from top to bottom, were tinged in the shade a greenish color, Egyptian blue, lilac, and pearl-gray, while in the sunshine they assumed a most admirable and warm hue similar to that of orange peel, tarnished gold, or a lion's skin. Nothing gives you so good an idea of a chaos, of a world still in the course of creation, as a mountain range seen from its highest point. It seems as if a nation of Titans had been endeavoring to build a sacrilegious Babel, some prodigious *Lylac* or other; that they had heaped together all the materials and commenced the gigantic terraces, when suddenly the breath of some unknown being had, like a tempest, swept over the temples and palaces they had begun, shaking their foundations and leveling them with the ground. You might fancy yourself amidst the ruins of an antediluvian Babylon, a pre-Adamite city. The enormous blocks, the Pharaoh-like masses, awaken in your breast thoughts of a race of giants that has now disappeared, so visibly is the old age of the world written in deep wrinkles on the bald front and rugged face of these millennial mountains.

We had reached the region inhabited by the eagles. Several times, at a distance, we saw one of these noble birds perched upon a solitary rock, with its eye turned toward the sun, and immersed in that state of contemplative ecstasy which with animals replaces thought. There was one of them floating at an immense height above us, and seemingly motionless in the midst of a sea of light. Romero could not resist the pleasure of sending him a visiting card in the shape of a bullet. It carried away one of the large feathers of his wing, but the eagle, nothing moved, continued on his way with indescribable majesty, as if nothing had happened. The feather whirled round and round a long time before reaching the earth; it was picked up by Romero, who stuck it in his hat.

Thin streaks of snow now began to show themselves, scattered here and there, in the shade; the air became more rarefied and the rocks more steep and precipitous; soon afterward the snow appeared in immense sheets and enormous heaps which the sun was no longer strong enough to melt. We were above the sources of the Gruil, which we perceived like a blue ribbon frosted with silver, streaming down with all possible speed in the direction of its beloved city. The table-land on which we stood is about 9000 feet above the level of the sea, and is the highest spot in the range with the exception of the peak of Veleta and the Mulhacen, which towers another thousand feet towards the immeasurable height of heaven. On this spot Romero decided that we should pass the night. The horses, who were worn out with fatigue, were unsaddled; Louis and the guide tore up a quantity of brushwood, roots, and juniper plants to make a fire, for although in the plain the thermometer stood at thirty or thirty-five degrees, there was a freshness on the heights we then occupied, which we knew would settle down into intense cold as soon as the sun had set. It was about five o'clock in the afternoon; my companion and the young German determined to take advantage of the daylight that remained, to scale alone and on foot the last heights of the mountain. For my own part, I preferred stopping behind;

my soul was moved by the grand and sublime spectacle before me, and I busied myself with scribbling in my pocket-book sundry verses, which, if not well turned, had at least the merit of being the only alexandrines composed at such an elevation. After my strophes were finished, I manufactured some sorbets with snow, sugar, lemon and brandy, for our dessert. Our encampment presented rather a picturesque appearance; our saddles served us for seats, and our cloaks for a carpet, while a large heap of snow protected us from the wind. A fire of broom blazed brightly in the center, and we fed it by throwing in, from time to time, a fresh branch which shriveled up and hissed, darting out its sap in little streams of all colors. Above us the horses stretched forward their thin heads, with their sad, gentle eyes, and caught an occasional puff of warmth.

Night was rapidly approaching. The least elevated mountains were the first to sink into obscurity, and the light, like a fisherman flying before the rising tide, leaped from peak to peak, retiring to the highest in order to escape from the shade which was advancing from the valleys beneath and burying everything in its bluish waves. The last ray which stopped on the summit of the Mulhacen hesitated for an instant, then spreading out its golden wings, winged its way like some birds of flame into the depths of heaven and disappeared. The obscurity was now complete, and the increased brilliancy of our fire caused a number of grotesque shadows to dance out upon the sides of the rocks. Eugene and the German had not returned, and I began to grow anxious on their account; I feared that they might have fallen down some precipice, or been buried beneath some mass of snow. Romero and Louis already requested me to sign a declaration to the effect that they had neither murdered nor robbed the two worthy gentlemen, and that, if the latter were dead, it was their own fault.

Meanwhile, we tore our lungs to pieces by indulging in the most shrill and savage cries, to let them know the position of our wigwam in case they should not be able to perceive the fire. At last the report of fire-arms, which was

hurled back by all the echoes of the mountains, told us that we had been heard, and that our companions were but a short distance off—in fact, at the expiration of a few minutes, they made their appearance, fatigued and worn out, asserting that they had distinctly seen Africa on the other side of the ocean; it is very possible they had done so, for the air of these parts is so pure that the eye can perceive objects at the distance of thirty or forty leagues. We were all very merry at supper, and by dint of playing the bagpipes with our skin of wine, we made it almost as flat as the wallet of a Castilian beggar. It was agreed that each of us should sit up in turn to attend the fire, an arrangement which was faithfully carried out, but the circumference of our circle, which was at first pretty considerable, kept becoming smaller and smaller. Every hour the cold became more intense, and at last we literally laid ourselves in the fire itself, so as to burn our shoes and pantaloons. Louis gave vent to his feelings in loud exclamation; he bewailed his *gaspacho* (cold garlic soup), his house, his bed, and even his wife. He made himself a formal promise, by everything he reverenced, never to be caught a second time attempting an ascent; he asserted that mountains are far more interesting when seen from below, and that a man must be a maniac to expose himself to the chance of breaking every bone in his body a hundred thousand times, and having his nose frozen off in the middle of the month of August, in Andalusia, and in sight of Africa. All night long he did nothing but grumble and groan in the same manner, and we could not succeed in reducing him to silence. Romero said nothing, and yet his dress was made of thin linen, and all that he had to wrap round him was a narrow piece of cloth.

At last the dawn appeared; we were enveloped in a cloud, and Romero advised me to begin our descent, if we wished to reach Granada before night. When it was sufficiently light to enable us to distinguish the various objects, I observed that Eugene was as red as a lobster nicely boiled, and at the same moment he made an analogous observation with respect to me, and did not feel himself bound to conceal

the fact. The young German and Louis were also equally red; Romero alone had preserved his peculiar tint, which resembled, by the way, that of a boot-top, and although his legs of bronze were naked, they had not undergone the slightest alteration. It was the biting cold, and the rarefaction of the air, that had turned us this color. Going up a mountain is nothing, because you look at the objects above you, but coming down with the awful depths before your eyes, is quite a different affair. At first the thing appeared impracticable, and Louis began screeching like a jay who is being picked alive. However, we could not remain forever in the Mulhacen, which is as little adapted for the purpose of habitation as any place in the known world, and so, with Romero at our head, we began our descent. It would be impossible, without laying ourselves open to the charge of exaggeration, to convey any notion of the paths, or rather the absence of paths, by which our dare-devil of a guide conducted us; never more break-neck obstacles crowded together in the course marked out for any steeple-chase, and I entertain strong doubts as to whether the feats of any "gentleman riders" ever outrivaled our exploits on the Mulhacen. The *Montagnes Russes* were mild declivities in comparison to the precipices with which we had to do. We were almost constantly standing up in our stirrups, and leaning back over the cruppers of our horses, in order to avoid performing an incessant succession of parabolas over their heads. All the lines of perspective seemed jumbled together; the streams appeared to be flowing up toward their source, the rocks vacillated and staggered on their bases, and the most distant objects appeared to be only two paces off; we had lost all feeling of proportion, an effect which is very common in the mountains, where the enormous size of the masses, and the vertical position of the different ranges, do not allow of your judging distances in the ordinary manner.

In spite of every difficulty we reached Granada without our horses having even made one false step, only they had got but one shoe left among them all. Andalusian horses —and ours were of the most authentic description—cannot

be equaled for mountain traveling. They are so docile, so patient, and so intelligent that the best thing the rider can do is to throw the reins on their necks and let them follow their own impulse.

We were impatiently expected, for our friends in the city had seen our fire burning like a beacon on the table-land of Mulhacen. I wanted to go and give an account of our perilous expedition to the charming Señoras B——, but was so fatigued that I fell asleep on a chair, holding my stocking in my hand, and I did not wake before ten o'clock the following morning, when I was still in the same position. Some few days afterward we quitted Granada, sighing quite as deeply as ever King Boabdil did.

EUROPE

Old Rotterdam

By EDMONDO DE AMICIS

AS we neared Rotterdam it rained and was foggy; we could see, as through a vail, only an immense confusion of ships, houses, wind-mills, towers, trees, and people in motion on the dikes and bridges; there were lights everywhere; a great city with such an aspect as I had never seen before, and which fog and darkness soon hid from me altogether. When I had taken leave of my traveling companions, and had put my luggage in order, it was night. "So much the better," I thought, as I entered a carriage; "I shall see the first Dutch city by night, which must be a strange spectacle." And, indeed, when M. Bismarck was at Rotterdam he wrote to his wife that at night he saw specters on the roofs.

It is difficult to make much of the city of Rotterdam, entering it at night. The carriage passed almost immediately over a bridge that resounded hollowly beneath it; and while I thought myself, and was, in fact, within the city, I saw with amazement on my right and left two rows of ships vanishing in the gloom.

Leaving the bridge, we passed through a street, lighted, and full of people, and found ourselves upon another bridge, and between two rows of vessels as before, and so on from bridge to street, from street to bridge, and, to increase the confusion, an illumination of lamps at the corners of houses, lanterns on masts of ships, light-houses on the bridges, small

lights under the houses, and all these lights reflected in the water. All at once the carriage stopped, people crowded about; I looked out and saw a bridge in the air. In answer to my question, some one said that a vessel was passing. We went on again, seeing a perspective of canals and bridges crossing and recrossing each other, until we came to a great square, sparkling with lights, and bristling with masts of ships, and finally we reached our inn in an adjacent street.

My first care on entering my room was to see whether Dutch cleanliness deserved its fame. It did, indeed, and may be called the religion of cleanliness. The linen was snow-white, the windows transparent as the air, the furniture shining like a crystal, the floors so clean that a microscope could not discover a black speck. There was a basket for waste paper, a tablet for scratching matches, a dish for cigar-ashes, a box for cigar-stumps, a spittoon, and a boot-jack; in short, there was no possible pretext for soiling anything.

My room examined, I spread a map of Rotterdam upon the table, and made some preparatory studies for the morrow.

It is a singular thing that the great cities of Holland, although built upon a shifting soil, and amid difficulties of every kind, have all great regularity of form. Amsterdam is a semicircle, the Hague square, Rotterdam an equilateral triangle. The base of the triangle is an immense dyke, which defends the city from the Meuse, and is called the Boompfes, signifying, in Dutch, small trees, from a row of little elms, now very tall, that were planted when it was first constructed.

Another great dyke forms a second bulwark against the river, which divides the city into two almost equal parts, and from the middle of the left side to the opposite angle. That part of Rotterdam which is comprised between the dykes is all canals, islands, and bridges, and is the new city; that which extends beyond the second dyke is the old city. Two great canals extend along the other two sides of the town to the apex, where they meet, and receive the waters of the river Rotte, which, with the affix of dam, or dyke, gives its name to the city.

Having thus fulfilled my conscientious duty as a traveler, and with many precautions not to soil, even by a breath, the purity of that jewel of a chamber, I abandoned myself with humility to my first Dutch bed.

Dutch beds—I speak of those in the hotels—are generally short and wide, and occupied in a great part by an immense feather pillow in which a giant's head would be overwhelmed. I may add that the ordinary light is a copper candlestick, of the size of a dinner-plate, which might sustain a torch, but holds, instead, a tiny candle about the size of a Spanish lady's finger.

In the morning I made haste to rise and issue forth into the strange streets, unlike anything in Europe. The first I saw was the Hoog Straat, a long, straight thoroughfare, running along the interior dike.

The unplastered houses, of every shade of brick, from the darkest red to light rose-color, chiefly two windows wide and two stories high, have the front wall rising above and concealing the roof, and in the shape of a blunt triangle surmounted by a parapet. Some of these pointed *façades* rise into two curves, like a long neck without a head; some are cut into steps like the houses that children build with blocks; some present the aspect of a conical pavilion, some of a village church, some of theatrical cabins. The parapets are in general surrounded by white stripes, coarse arabesques in plaster, and other ornaments in very bad taste; the doors and windows are bordered by broad white stripes; other white lines divide the different stories; the spaces between the doors in front are marked by white wooden panels, so that two colors, white and red, prevail everywhere, and as in the distance the darker red looks black, the prospect is half festive, half funereal, all the houses looking as if they were hung with white linen. At first I had an inclination to laugh, for it seemed impossible that it could have been done seriously, and that quite sober people lived in those houses. They looked as if they had been run up for a festival, and would presently disappear, like the paper framework of a grand display of fireworks.

While I stood looking vaguely at the street, I noticed one house that puzzled me somewhat; and, thinking that my eyes had been deceived, I looked more carefully at it, and compared it with its neighbors. Turning into the next street, the same thing met my astonished gaze. There is no doubt about it; the whole city of Rotterdam presents the appearance of a town that has been shaken smartly by an earthquake, and is on the point of falling into ruin.

All the houses—in any street one may count the exceptions on his fingers—lean more or less, but the greater part of them so much that at the roof they lean forward at least a foot beyond their neighbors, which may be straight, or not so visibly inclined; one leans forward as if it would fall into the street; another backward, another to the left, another to the right; at some points six or seven contiguous houses all lean forward together, those in the middle most, those at the ends less, looking like a paling with the crowd pressing against it. At another point two houses lean together as if supporting one another. In certain streets the houses for a long distance lean all one way, like trees beaten by a prevailing wind; and then another long row will lean in the opposite direction, as if the wind had changed. Sometimes there is a certain regularity of inclination that is scarcely noticeable; and again, at crossings and in the smallest streets there is an indescribable confusion of lines, a real architectural frolic, a dance of houses, a disorder that seems animated. There are houses that nod forward as if asleep, others that start backward as if frightened; some bending toward each other, their roofs almost touching, as if in secret conference; some falling upon one another as if they were drunk; some leaning backward between others that lean forward like malefactors dragged onward by their guards; rows of houses that courtesy to a steeple, groups of small houses all inclined toward one in the middle, like conspirators in conclave.

Observe them attentively one by one, from top to bottom, and they are interesting as pictures.

In some, upon the summit of the *façade*, there projects

from the middle of the parapet a beam with cord and pulley to pull up baskets and buckets. In others, jutting from a round window, is the carved head of a deer, a sheep, or a goat. Under the head, a line of whitewashed stone or wood cuts the whole *façade* in half. Under this line there are two broad windows with projecting awnings of striped linen. Under these again, over the upper panes, a little green curtain. Below this green curtain two white ones, divided in the middle to show a suspended bird-cage or a basket of flowers. And below the basket or the cage, the lower panes are covered by a net-work of fine wire that prevents the passer-by from seeing into the room. Within, behind the netting, there stands a table covered with objects in porcelain, crystal, flowers, and toys of various kinds. Outside on the stone sill is a row of small flower-pots. From the stone sill or from one side projects an iron stem curving upward, which sustains two small mirrors joined in the form of a book, movable, and surmounted by another, also movable, so that those inside the house can see, without being seen, everything that passes in the street.

On some of the houses there is a lamp projecting between the two windows, and below is the door of the house or a shop-door. If it is a shop, over the door there is the carved head of a Moor with his mouth wide open, or that of a Turk with a hideous grimace; sometimes there is an elephant or a goose; sometimes a horse's or a bull's head, a serpent, a half-moon, a wind-mill, or an arm extended, the hand holding some object of the kind sold in the shop. If it is the house-door—always kept closed—there is a brass plate with the name of the occupant, another with a slit for letters, another with the handle of a bell, the whole, including the locks and bolts, shining like gold. Before the door there is a small bridge of wood, because in many of the houses the ground-floor or basement is much lower than the street; and before the bridge two little stone columns surmounted by two balls; two more columns in front of these are united by iron chains, the large links of which are in the form of crosses, stars, and polygons; in the space between

the street and the house are pots of flowers; and at the windows of the ground-floor more flower-pots and curtains. In the more retired streets there are bird-cages on both sides of the windows, boxes full of green growing things, clothes hung out to air or dry, a thousand objects and colors, like a universal fair.

But without going out of the older town, one need only to go away from the center to see something new at every step.

In some narrow, straight streets one may see the end suddenly closed as if by a curtain concealing the view; but it disappears as it came, and is recognized as the sail of a vessel moving in a canal. In other streets a net-work of cordage seems to stop the way; the rigging of vessels lying in some basin. In one direction there is a draw-bridge raised, and looking like a gigantic swing provided for the diversion of the people who live in those preposterous houses; and in another there is a wind-mill, tall as a steeple and black as an antique tower, moving its arms like a monstrous fire-work. On every side, finally, among the houses, above the roofs, between the distant trees, are seen masts of vessels, flags, and sails and rigging, reminding us that we are surrounded by water, and that the city is a seaport.

Meantime, the shops were opened and the streets became full of people. There was great animation, but no hurry, the absence of which distinguishes the streets of Rotterdam from those of London, between which some travelers find great resemblance, especially in the color of the houses and the grave aspect of the inhabitants. White faces, pallid faces, faces the color of Parmesan cheese; light hair, very light hair, reddish, yellowish; broad, beardless visages, beards under the chin and around the neck; blue eyes, so light as to seem almost without a pupil; women stumpy, fat, rosy, slow, with white caps and earrings in the form of corkscrews—these are the first things one observes in the crowd.

But for the moment it was not the people that first stimulated my curiosity. I crossed the Hoog Street, and found

myself in the new city. Here it is impossible to say if it be port or city, if land or water predominate, if there are more ships than houses, or *vice versâ*.

Broad and long canals divide the city into so many islands, united by draw-bridges, turning bridges, and bridges of stone. On either side of every canal extends a street, flanked by trees on one side and houses on the other. All these canals are deep enough to float large vessels, and all are full of them from one end to the other, except a space in the middle left for passage in and out—an immense fleet imprisoned in a city.

When I arrived it was the busiest hour, so I planted myself upon the highest bridge over the principal crossing. From thence were visible four canals, four forests of ships, bordered by eight files of trees; the streets were crammed with people and merchandise; droves of cattle were crossing the bridges; bridges were rising in the air, or opening in the middle, to allow vessels to pass through, and were scarcely replaced or closed before they were inundated by a throng of people, carts and carriages; ships came and went in the canals, shining like models in a museum, and with the wives and children of the sailors on the decks; boats darted from vessel to vessel; the shops drove a busy trade; servant-women washed the walls and windows; and all this moving life was rendered more gay and cheerful by the reflections in the water, the green of the trees, the red of the houses, the tall wind-mills showing their dark tops and white sails against the azure of the sky, and still more by an air of quiet simplicity not seen in any other northern city.

I took observations of a Dutch vessel. Almost all the ships crowded in the canals of Rotterdam are built for the Rhine and Holland; they have one mast only, and are broad, stout, and variously colored like toy ships. The hull is generally of a bright grass-green, ornamented with a red or a white stripe, or sometimes several stripes, looking like a band of different-colored ribbons. The poop is usually gilded. The deck and mast are varnished and shining like the cleanest of house-floors. The outside of the hatches,

the buckets, the barrels, the yards, the planks, are all painted red, with white or blue stripes. The cabin where the sailors' families are is colored like a Chinese kiosk, and has its windows of clear glass, and its white muslin curtains tied up with knots of rose-colored ribbon. In every moment of spare time sailors, women, and children are busy washing, sweeping, polishing every part with infinite care and pains; and when their little vessel makes its exit from the port, all fresh and shining like a holiday-coach, they all stand on the poop and accept with dignity the mute compliments which they gather from the glances of the spectators along the canals.

From canal to canal, and from bridge to bridge, I finally reached the dike of the Boompjes upon the Maas, where boils and bubbles all the life of the great commercial city.

On the left extends a long row of small many-colored steamboats, which start every hour in the day for Dordrecht, Arnhem, Gonda, Schiedam, Brilla, Zealand, and continually send forth clouds of white smoke and the sound of their cheerful bells. To the right lie the large ships which make the voyage to various European ports, mingled with fine three-masted vessels bound for the East Indies, with names written in golden letters—Java, Sumatra, Borneo, Samarang —carrying the fancy to those distant and savage countries like the echoes of distant voices. In front the Maas, covered with boats and barks, and the distant shore with a forest of beech-trees, wind-mills, and towers; and over all the unquiet sky, full of gleams of light and gloomy clouds, fleeting and changing in their constant movement, as if repeating the restless labor on the earth below.

EUROPE

On the Road in Russia

By D. MACKENZIE WALLACE

WHILST I was considering how I could get beyond the sphere of West European languages, a friend came to my assistance and suggested that I should go to his estate in the province of Novgorod, where I should find an intelligent, amiable parish priest, quite innocent of any linguistic acquirements. This proposal I at once adopted, and accordingly found myself one morning at a small station of the Moscow Railway, endeavoring to explain to a peasant in sheep's clothing that I wished to be conveyed to Ivánofka, the village where my future teacher lived. At that time I still spoke Russian in a very fragmentary and confused way—pretty much as Spanish cows are popularly supposed to speak French. My first remark therefore, being literally interpreted, was "Ivánofka. Horses. You can?" The point of interrogation was expressed by a simultaneous raising of the voice and the eyebrows.

"Ivánofka?" said the peasant, in an interrogatory tone of voice. In Russia, as in other countries, the peasantry when speaking with strangers like to repeat questions, apparently for the purpose of gaining time.

"Ivánofka," I replied.

"Now?"

"Now!"

After some reflection the peasant nodded and said something which I did not understand, but which I assumed to

mean that he was open to consider proposals for transporting me to my destination.

"Rubles. How many?"

To judge by the knitting of the brows and the scratching of the head, I should say that that question gave occasion to a very abstruse mathematical calculation. Gradually the look of concentrated attention gave place to an expression such as children assume when they endeavor to get a parental decision reversed by means of coaxing. Then came a stream of soft words which were to me utterly unintelligible.

"How many?" I repeated.

"Ten!" said the peasant, in a hesitating, apologetic way, as if he were more than half ashamed of what he was saying.

"Ten!" I exclaimed, indignantly. "Two, enough!" and waving my hand to indicate that I should be no party to such a piece of extortion, I re-entered the station. As I reached the door I heard him say, "Master, master! Eight!" But I took no notice of the proposal.

I must not weary the reader with a detailed account of the succeeding negotiations, which were conducted with extreme diplomatic caution on both sides, as if a cession of territory or the payment of a war contribution had been the subject of discussion. Three times he drove away and three times returned. Each time he abated his pretensions, and each time I slightly increased my offer. At last, when I began to fear that he had finally taken his departure and had left me to my own devices, he re-entered the room and took up my baggage, indicating thereby that he agreed to my last offer.

The sum agreed upon—four rubles—would have been, under ordinary circumstances, more than sufficient for the distance, which was only about twenty miles; but before proceeding far I discovered that the circumstances were by no means ordinary, and I began to understand the pantomimic gesticulation which had puzzled me during the negotiations. Heavy rain had fallen without interruption for

several days, and now the track on which we were traveling could not, without poetical license, be described as a road. In some parts it resembled a water-course, in others a quagmire, and at least during the first half of the journey I was constantly reminded of that stage in the work of creation when the water was not yet separated from the dry land. During the few moments when the work of keeping my balance and preventing my baggage from being lost did not engross all my attention, I speculated on the possibility of constructing a boat-carriage, to be drawn by a swift-footed hippopotamus, or some other animal that feels itself at home equally on land and in water. On the whole, the project seemed to me then as useful and as feasible as Fourrier's idea of making whales play the part of tug-steamers.

Fortunately for us, our two lean, wiry little horses did not object to being used as aquatic animals. They took the water bravely, and plunged through the mud in gallant style. The *telega* in which we were seated—a four-wheeled skeleton cart—did not submit to the ill-treatment so silently. It creaked out its remonstrances and entreaties, and at the more difficult spots threatened to go to pieces; but its owner understood its character and capabilities, and paid no attention to its ominous threats. Once, indeed, a wheel came off, but it was soon fished out of the mud and replaced, and no further casualty occurred.

The horses did their work so well that, when about midday we arrived at a village, I could not refuse to let them have some rest and refreshment—all the more as my own thoughts had begun to turn in that direction.

The village, as villages in that part of the country generally, consisted of two long parallel rows of wooden houses. The road—if a stratum of mud more than a foot in depth can be called by that name—formed the intervening space. All the houses turned their gables to the road, and some of them had pretensions to architectural decoration in the form of rude perforated woodwork. Between the houses, and in a line with them, were great wooden gates and high wooden fences, separating the court-yards from the road. Into one of these

yards, near the farther end of the village, our horses turned of their own accord.

"An inn?" I said, in an interrogative tone.

The driver shook his head and said something, in which I detected the word "friend." Evidently there was no hostelry for man and beast in the village, and the driver was using a friend's house for the purpose.

The yard was flanked on the one side by an open shed, containing rude agricultural implements which might throw some light on the agriculture of the primitive Aryans, and on the other side by the dwelling-house and stable. Both the house and stable were built of logs, nearly cylindrical in form, and placed in horizontal tiers.

Two of the strongest of human motives, hunger and curiosity, impelled me to enter the house at once. Without waiting for an invitation, I went up to the door—half protected against the winter snows by a small open portico—and unceremoniously walked in. The first apartment was empty, but I noticed a low door in the wall to the left, and passing through this, entered the principal room. As the scene was new to me, I noted the principal objects. In the wall before me were two small square windows looking out upon the road, and in the corner to the right, nearer to the ceiling than to the floor, was a little triangular shelf, on which stood a religious picture. Before the picture hung a curious oil lamp. In the corner to the left of the door was a gigantic stove, built of brick, and whitewashed. From the top of the stove to the wall on the right stretched what might be called an enormous shelf, six or eight feet in breadth. This is the so-called *palati,* as I afterward discovered, and serves as a bed for part of the family. The furniture consisted of a long wooden bench attached to the wall on the right, a big, heavy deal table, and a few wooden stools.

Whilst I was leisurely surveying these objects I heard a noise on the top of the stove, and, looking up, perceived a human face, with long hair parted in the middle, and a full yellow beard. I was considerably astonished by this ap-

parition, for the air in the room was stifling, and I had some difficulty in believing that any created being—except perhaps a salamander or a negro—could exist in such a position. I looked hard to convince myself that I was not the victim of a delusion. As I stared, the head nodded slowly and pronounced the customary form of greeting.

I returned the greeting slowly, wondering what was to come next.

"Ill, very ill!" sighed the head.

"I'm not astonished at that," I remarked, in an "aside." "If I were where you are I should be very ill too."

"Hot, very hot?" I remarked interrogatively.

"Nitchevo"—that is to say, "Not particularly." This remark astonished me all the more, as I noticed at that very moment that the body to which the head belonged was enveloped in a sheep-skin!

After living some time in Russia I was no longer surprised by such incidents, for I soon discovered that the Russian peasant has a marvelous power of bearing extreme heat as well as extreme cold. When a coachman takes his master or mistress to the theater or to a party, he never thinks of going home and returning at an appointed time. Hour after hour he sits placidly on the box, and though the cold be of an intensity such as is never experienced in our temperate climate, he can sleep as tranquilly as the lazzarone at midday in Naples. In that respect the Russian peasant seems to be first-cousin to the polar bear, but, unlike the animals of the arctic regions, he is not at all incommoded by excessive heat. On the contrary, he likes it when he can get it, and never omits an opportunity of laying in a reserve supply of caloric. He even delights in rapid transitions from one extreme to the other, as is amply proved by a curious custom which deserves to be recorded.

The reader must know that in the life of the Russian peasantry the weekly vapor-bath plays a most important part. It has even a certain religious signification, for no good orthodox peasant would dare to enter a church after

being soiled by certain kinds of pollution without cleansing himself physically and morally by means of the bath. In the weekly arrangements it forms the occupation for Saturday afternoon, and care is taken to avoid thereafter all pollution until after the morning service on Sunday. Many villages possess a public or communal bath of the most primitive construction, but in some parts of the country—I am not sure how far the practice extends—the peasants take their vapor-bath in the household oven in which the bread is baked! In all cases the operation is pushed to the extreme limit of human endurance—far beyond the utmost limit that can be endured by those who have not been accustomed to it from childhood. For my own part, I only made the experiment once, and when I informed my attendant that my life was in danger from congestion of the brain, he laughed outright, and told me that the operation had only begun. Most astounding of all—and this brings me to the fact which led me into this digression—the peasants in winter often rush out of the bath and roll themselves in snow! This aptly illustrates a common Russian proverb, which says that what is health to the Russian is death to the German.

EUROPE

Perils of Alpine Climbing

By EDWARD WHYMPER

WE started from Zermatt on the thirteenth of July at half-past five, on a brilliant and perfectly cloudless morning. We were eight in number—Croz, old Peter and his two sons, Lord Francis Douglas, Hadow, Hudson and I. To insure steady motion, one tourist and one native walked together. The youngest Taugwalder fell to my share, and the lad marched well, proud to be on the expedition and happy to show his powers. The wine-bags also fell to my lot to carry, and throughout the day, after each drink, I replenished them secretly with water, so that at the next halt they were found fuller than before! This was considered a good omen, and little short of miraculous.

On the first day we did not intend to ascend to any great height, and we mounted, accordingly, very leisurely, picked up the things which were left in the chapel at Schwarzsee at eight-twenty, and proceeded thence along the ridge connecting the Hörnli with the Matterhorn. At half-past eleven we arrived at the base of the actual peak, then quitted the ridge and clambered round some ledges on to the eastern face. We were now fairly upon the mountain, and were astonished to find that places which from the Riffel, or even from the Furggengletscher, looked entirely impracticable, were so easy that we could run about.

Before twelve o'clock we had found a good position for the tent, at a height of 11,000 feet. Croz and young

Peter went on to see what was above, in order to save time on the following morning. They cut across the heads of the snow-slopes which descended toward the Furggengletscher, and disappeared round a corner, but shortly afterward we saw them high up on the face, moving quickly. We others made a solid platform for the tent in a well-protected spot, and then watched eagerly for the return of the men. The stones which they upset told that they were very high, and we supposed that the way must be easy. At length, just before three P.M., we saw them coming down, evidently much excited. "What are they saying, Peter?" "Gentlemen, they say it is no good." But when they came near we heard a different story: "Nothing but what was good—not a difficulty, not a single difficulty. We could have gone to the summit and returned to-day easily!"

We passed the remaining hours of daylight—some basking in the sunshine, some sketching or collecting—and when the sun went down, giving, as it departed, a glorious promise for the morrow, we returned to the tent to arrange for the night. Hudson made tea, I coffee, and we then retired each one to his blanket-bag; the Taugwalders, Lord Francis Douglas and myself occupying the tent, the others remaining by preference outside. Long after dusk the cliffs above echoed with our laughter and with the songs of the guides, for we were happy that night in camp, and feared no evil.

We assembled together outside the tent before dawn on the morning of the fourteenth, and started directly it was light enough to move. Young Peter came on with us as a guide, and his brother returned to Zermatt. We followed the route which had been taken on the previous day, and in a few minutes turned the rib which had intercepted the view of the eastern face from our tent platform. The whole of this great slope was now revealed, rising for 3000 feet like a huge natural staircase. Some parts were more and others were less easy, but we were not once brought to a halt by any serious impediment, for when an obstruction was met in front it could always be turned to the right or to the left. For the greater part of the way there was

indeed no occasion for the rope, and sometimes Hudson led, sometimes myself. At six-twenty we had attained a height of 12,800 feet, and halted for half an hour; we then continued the ascent without a break until nine fifty-five, when we stopped for fifty minutes at a height of 14,000 feet. Twice we struck the north-eastern ridge, and followed it for some little distance—to no advantage, for it was usually more rotten and steep, and always more difficult, than the face. Still, we kept near to it, lest stones perchance might fall.

We had now arrived at the foot of that part which, from the Riffelberg or from Zermatt, seems perpendicular or overhanging, and could no longer continue upon the eastern side. For a little distance we ascended by snow upon the *arête*—that is, the ridge—descending toward Zermatt, and then by common consent turned over to the right, or to the northern side. Before doing so we made a change in the order of ascent. Croz went first, I followed, Hudson came third; Hadow and old Peter were last. "Now," said Croz as he led off—"now for something altogether different." The work became difficult, and required caution. In some places there was little to hold, and it was desirable that those should be in front who were least likely to slip. The general slope of the mountain at this part was less than forty degrees, and snow had accumulated in, and had filled up, the interstices of the rock-face, leaving only occasional fragments projecting here and there. These were at times covered with a thin film of ice, produced from the melting and refreezing of the snow. It was the counterpart, on a small scale, of the upper seven hundred feet of the Pointe des Écrins; only there was this material difference—the face of the Écrins was about, or exceeded, an angle of fifty degrees, and the Matterhorn face was less than forty degrees. It was a place over which any fair mountaineer might pass in safety, and Mr. Hudson ascended this part, and, as far as I know, the entire mountain, without having the slightest assistance rendered to him upon any occasion. Sometimes, after I had taken a hand from Croz or received a pull, I turned to offer

the same to Hudson, but he invariably declined, saying it was not necessary. Mr. Hadow, however, was not accustomed to this kind of work, and required continual assistance. It is only fair to say that the difficulty which he found at this part arose simply and entirely from want of experience.

This solitary difficult part was of no great extent. We bore away over it at first nearly horizontally, for a distance of about four hundred feet, then ascended directly toward the summit for about sixty feet, and then doubled back to the ridge which descends toward Zermatt. A long stride round a rather awkward corner brought us to snow once more. The last doubt vanished! The Matterhorn was ours! Nothing but two hundred feet of easy snow remained to be surmounted!

You must now carry your thoughts back to the seven Italians who started from Breuil on the eleventh of July. Four days had passed since their departure, and we were tormented with anxiety lest they should arrive on the top before us. All the way up we had talked of them and many false alarms of "men on the summit" had been raised. The higher we rose the more intense became the excitement. What if we should be beaten at the last moment! The slope eased off, at length we could be detached, and Croz and I, dashing away, ran a neck-and-neck race which ended in a dead heat. At one-forty P.M. the world was at our feet and the Matterhorn was conquered! Hurrah! Not a footstep could be seen.

It was not yet certain that we had not been beaten. The summit of the Matterhorn was formed of a rudely level ridge, about three hundred and fifty feet long, and the Italians might have been at its farther extremity. I hastened to the south end, scanning the snow right and left eagerly. Hurrah again! it was untrodden. "Where were the men?" I peered over the cliff, half doubting, half expectant. I saw them immediately, mere dots on the ridge, at an immense distance below. Up went my arms and my hat. "Croz! Croz! come here!" "Where are they, monsieur?" "There—don't you see them down there?" "Ah! the

coquins! they are low down." "Croz, we must make those fellows hear us." We yelled until we were hoarse. The Italians seemed to disregard us—we could not be certain. "Croz, we *must* make them hear us—they *shall* hear us!" I seized a block of rock and hurled it down, and called upon my companion in the name of friendship to do the same. We drove our sticks in and pried away the crags, and soon a torrent of stones poured down the cliffs. There was no mistake about it this time. The Italians turned and fled.

Still, I would that the leader of that party could have stood with us at that moment, for our victorious shouts conveyed to him the disappointment of the ambition of a lifetime. He was the man, of all those who attempted the ascent of the Matterhorn, who most deserved to be the first upon its summit. He was the first to doubt its inaccessibility, and he was the only man who persisted in believing that its ascent would be accomplished. It was the aim of his life to make the ascent from the side of Italy for the honor of his native valley. For a time he had the game in his hands: he played it as he thought best, but he made a false move and lost it. Times have changed with Carrel. His supremacy is questioned in the Val Tournanche; new men have arisen, and he is no longer recognized as the chasseur above all others; but so long as he remains the man that he is to-day it will not be easy to find his superior.

The others had arrived, so we went back to the northern end of the ridge. Croz now took the tent-pole and planted it in the highest snow. "Yes," we said, "there is a flagstaff, but where is the flag?" "Here it is," he answered, pulling off his blouse and fixing it to the stick. It made a poor flag, and there was no wind to float it out, yet it was seen all around. They saw it at Zermatt, at the Riffel, in the Val Tournanche. At Breuil the watchers cried "Victory is ours!" They raised "bravos" for Carrel and "vivas" for Italy, and hastened to put themselves *en fête*. On the morrow they were undeceived. All was changed: the explorers returned sad—cast-down—disheartened—con-

founded—gloomy. "It is true," said the men. "We saw them ourselves—they hurled stones at us! The old traditions are true—there are spirits on the top of the Matterhorn!"

We returned to the southern end of the ridge to build a cairn, and then paid homage to the view. The day was one of those superlatively calm and clear ones which usually precede bad weather. The atmosphere was perfectly still and free from all clouds or vapors. Mountains fifty—nay, a hundred—miles off, looked sharp and near. All their details—ridge and crag, snow and glacier—stood out with faultless definition. Pleasant thoughts of happy days in bygone years came up unbidden as we recognized the old, familiar forms. All were revealed—not one of the principal peaks of the Alps was hidden. I see them clearly now—the great inner circles of giants, backed by the ranges, chains and *massifs*. First came the Dent Blanche, hoary and grand; the Gabelhorn and pointed Rothhorn, and then the peerless Weisshorn; the towering Mischabelhörner, flanked by the Allaleinhorn, Strahlhorn and Rimpfischhorn; then Monte Rosa—with its many Spitzes—the Lyskamm and the Breithorn. Behind were the Bernese Oberland, governed by the Finsteraarhorn, the Simplon and St. Gothard groups, the Disgrazia and the Orteler. Toward the south we looked down to Chivasso on the plain of Piedmont, and far beyond. The Viso—one hundred miles away—seemed close upon us; the Maritime Alps—one hundred and thirty miles distant—were free from haze. Then came my first love—the Pelvoux; the Écrins and the Meije; the clusters of the Graians; and lastly, in the west, gorgeous in the full sunlight, rose the monarch of all—Mont Blanc. Ten thousand feet beneath us were the green fields of Zermatt, dotted with chalets, from which blue smoke rose lazily. Eight thousand feet below, on the other side, were the pastures of Breuil. There were forests black and gloomy, and meadows bright and lively; bounding waterfalls and tranquil lakes; fertile lands and savage wastes; sunny plains and frigid plateaux. There were the most rugged forms and

the most graceful outlines—bold, perpendicular cliffs and gentle, undulating slopes; rocky mountains and snowy mountains, somber and solemn or glittering and white, with walls, turrets, pinnacles, pyramids, domes, cones, and spires! There was every combination that the world can give, and every contrast that the heart could desire.

We remained on the summit for one hour—

One crowded hour of glorious life.

It passed away too quickly, and we began to prepare for the descent.

[On another occasion Mr. Whymper had a dangerous fall, which he describes as follows.]

Generally speaking, the angles on the Matterhorn are too steep to allow the formation of considerable beds of snow, but here there is a corner which permits it to accumulate, and it is turned to gratefully, for by its assistance one can ascend four times as rapidly as upon the rocks.

The Tower was now almost out of sight, and I looked over the central Pennine Alps to the Grand Combin and to the chain of Mont Blanc. My neighbor, the Dent d'Hérens, still rose above me, although but slightly, and the height which had been attained could be measured by its help. So far, I had no doubt about my capacity to descend that which had been ascended; but in a short time, on looking ahead, I saw that the cliffs steepened, and I turned back (without pushing on to them and getting into inextricable difficulties), exulting in the thought that they would be passed when we returned together, and that I had without assistance got nearly to the height of the Dent d'Hérens, and considerably higher than any one had been before. My exultation was a little premature.

About five P.M. I left the tent again, and thought myself as good as at Breuil. The friendly rope and claw had done good service, and had smoothed all the difficulties. I lowered myself through the Chimney, however, by making a fixture of the rope, which I then cut off and left behind, as there was enough and to spare. My axe had proved a great

nuisance in coming down, and I left it in the tent. It was not attached to the bâton, but was a separate affair—an old navy boarding-axe. While cutting up the different snow-beds on the ascent, the bâton trailed behind fastened to the rope; and when climbing the axe was carried behind, run through the rope tied round my waist, and was sufficiently out of the way, but in descending, when coming down face outward (as is always best where it is possible), the head or the handle of the weapon caught frequently against the rocks, and several times nearly upset me. So, out of laziness if you will, it was left in the tent. I paid dearly for the imprudence.

The Col du Lion was passed, and fifty yards more would have placed me on the great Staircase, down which one can run. But on arriving at an angle of the cliffs of the Tête du Lion, while skirting the upper edge of the snow which abuts against them, I found that the heat of the two past days had nearly obliterated the steps which had been cut when coming up. The rocks happened to be impracticable just at this corner, so nothing could be done except to make steps afresh. The snow was too hard to beat or tread down, and at the angle it was all but ice: half a dozen steps only were required, and then the ledges could be followed again. So I held to the rock with my right hand, and prodded at the snow with the point of my stick until a good step was made, and then, leaning round the angle, did the same for the other side. So far well, but in attempting to pass the corner (to the present moment I cannot tell how it happened) I slipped and fell.

The slope was steep on which this took place, and descended to the top of a gully that led down through two subordinate buttresses toward the Glacier du Lion, which was just seen, a thousand feet below. The gully narrowed and narrowed until there was a mere thread of snow lying between two walls of rock, which came to an abrupt termination at the top of a precipice that intervened between it and the glacier. Imagine a funnel cut in half through its length, placed at an angle of forty-five degrees, with its point

below and its concave side uppermost, and you will have a fair idea of the place.

The knapsack brought my head down first, and I pitched into some rocks about a dozen feet below: they caught something, and tumbled me off the edge, head over heels, into the gully. The bâton was dashed from my hands, and I whirled downward in a series of bounds, each longer than the last—now over ice, now into rocks—striking my head four or five times, each time with increased force. The last bound sent me spinning through the air, in a leap of fifty or sixty feet, from one side of the gully to the other, and I struck the rocks, luckily, with the whole of my left side. They caught my clothes for a moment, and I fell back on to the snow with motion arrested: my head fortunately came the right side up, and a few frantic catches brought me to a halt in the neck of the gully and on the verge of the precipice. Bâton, hat, and veil skimmed by and disappeared, and the crash of the rocks which I had started, as they fell on to the glacier, told how narrow had been the escape from utter destruction. As it was, I fell nearly two hundred feet in seven or eight bounds. Ten feet more would have taken me in one gigantic leap of eight hundred feet on to the glacier below.

The situation was still sufficiently serious. The rocks could not be left go for a moment, and the blood was spurting out of more than twenty cuts. The most serious ones were in the head, and I vainly tried to close them with one hand while holding on with the other. It was useless: the blood jerked out in blinding jets at each pulsation. At last, in a moment of inspiration I kicked out a big lump of snow and stuck it as a plaster on my head. The idea was a happy one, and the flow of blood diminished: then, scrambling up, I got, not a moment too soon, to a place of safety, and fainted away. The sun was setting when consciousness returned, and it was pitch dark before the great Staircase was descended; but by a combination of luck and care the whole 4800 feet of descent to Breuil was accomplished without a slip or once missing the way.

I slunk past the cabin of the cowherds, who were talking and laughing inside, utterly ashamed of the state to which I had been brought by my imbecility, and entered the inn stealthily, wishing to escape to my room unnoticed. But Favre met me in the passage, demanded, "Who is it?" screamed with fright when he got a light, and aroused the household. Two dozen heads then held solemn council over mine, with more talk than action. The natives were unanimous in recommending that hot wine (syn. vinegar), mixed with salt, should be rubbed into the cut. I protested, but they insisted. It was all the doctoring they received. Whether their rapid healing was to be attributed to that simple remedy or to a good state of health, is a question; they closed up remarkably soon, and in a few days I was able to move again.

As it seldom happens that one survives such a fall, it may be interesting to record what my sensations were during its occurrence. I was perfectly conscious of what was happening, and felt each blow, but, like a patient under chloroform, experienced no pain. Each blow was, naturally, more severe than that which preceded it, and I distinctly remember thinking, "Well, if the next is harder still, that will be the end!" Like persons who have been rescued from drowning, I remember that the recollection of a multitude of things rushed through my head, many of them trivialities or absurdities which had been forgotten long before; and, more remarkable, this bounding through space did not feel disagreeable. But I think that in no very great distance more consciousness as well as sensation would have been lost, and upon that I base my belief, improbable as it seems, that death by a fall from a great height is as painless an end as can be experienced.

The battering was very rough, yet no bones were broken. The most severe cuts were, one four inches long on the top of the head, and another of three inches on the right temple; this latter bled frightfully. There was a formidable looking cut, of about the same size as the last, on the palm of the left hand, and every limb was grazed or cut

more or less seriously. The tips of the ears were taken off, and a sharp rock cut a circular bit out of the side of the left boot, sock, and ankle at one stroke. The loss of blood, although so great, did not seem to be permanently injurious. The only serious effect has been the reduction of a naturally retentive memory to a very commonplace one; and although my recollections of more distant occurrences remain unshaken, the events of that particular day would be clean gone but for the few notes which were written down before the accident.

THE COLISEUM AT ROME.

EUROPE

The Midnight Sun

By LANGLEY COLERIDGE

NORWAY is a land of pure delight to the traveler. There are no picture-galleries to make one's neck ache ; no museum to make the weary feet throb ; no promenades ; no sherry-cobblers to sip while bands play in the gardens ; no continuations of London and Brighton. There are no crowds ; you may see a magnificent waterfall all by yourself, or ascend a hundred Rigis without meeting a soul. There are no loafers ; and you may get into boats and out of boats, into carrioles and out of carrioles, without one humpbacked beggar-boy or man with his eye in a sling to whine at you, or one officious person getting in the way in order to be paid for it. There are no mammoth hotels, where you have to climb a dozen flights of stairs before you can reach your bed ; no billiards when once you have left the three chief towns ; no stuffy railways to whiz you past the best scenery ; no dressing for dinner.

Now, all these things, to one who has been over and over again to the most civilized places in the world, are very refreshing ; and yet these are perhaps but minor points, and do not explain the secret of the great charm of Norway. Rip Van Winkle's was a wonderful sleep ; he woke and found the world had gone forward a hundred years ; but the traveler who sleeps on the North Sea and wakes up in the morning in Norway has had a more wonderful sleep. He wakes and finds the world has gone back half a mil-

lennium! Southward the countries of Europe have struggled and slaved in the race for the perfection of civilization, while Norway is as it was in the beginning. Southward, the countries have obeyed the watchword, "Forward!" Norway has obeyed the signal, "As you were!"

Now, fancy yourself arriving at a little village in an out-of-the-way place in Norway. Nobody flutters about your carriole to escort you to a hotel, but you enter the "station," a low, rambling wooden structure, with diffidence. You see the lady of the house and shake hands with her; you ask her to be good enough to let you stay there the night; you enter a bedroom, where everything is plain as a deal box, but clean as a Dutch tulip. Then you sit down with the family in the general room to your meal. It will assuredly consist of either trout and salmon, or salmon and trout, with perhaps an egg, perhaps potatoes, perhaps black bread. No Bass, but perhaps some Norsh Öl, a very pleasant beverage. After supper you will smoke a pipe with your landlord, who will probably invite you to see the pigs, or will lend you a hand to splice up any broken harness of your carriole.

About nine or ten o'clock you will go to bed, in the broad daylight if it be summer-time, and in the morning you will wake up, finding the landlady's daughter at your bedside, with a delicious cup of hot coffee and a natty little roll, or perchance a biscuit. And then, still early in the morning, you will bid farewell as to old friends, you will shake hands all round, and away in your carriole to drive through romantic scenery, and to feel as though Norway had been made specially for you.

Before you have been two days in the country you will love the quaint, unsophisticated people, so hearty in their kindness, so ungrudging in their hospitality, and their Old-World manners and customs, so genuine in an age of sham, so solid in an age of veneer. One great charm of Norway, then, is its people; another, and perhaps more to be appreciated by some, is its scenery.

"Is it like Switzerland?" No; Norway is only like

Norway. It is not so grand as regards the height of its mountains, yet its grandeur is far more solemn. It has a dozen fjords more startling than the Lake of Lucerne ; in a day's journey you will pass waterfalls and cascades which would make a fortune to "proprietors" in Switzerland, and are not so much as mentioned in the Norwegian guide-books. Switzerland is grand beyond compare, but it must be confessed it is a monotonous grandeur. Not so with Norway : its charms of scenery are varied as they are unique. A coast wild and rugged ; mighty pine-forests, interminable ; lakes beautiful as Windermere ; fjords awful in their grandeur ; valleys rich in their fertility ; fields bare and barren ; sport with the gun, sport with the rod ; these and a hundred other charms may be entered in the catalogue.

But all these are outweighed by the strange, weird beauty and grandeur of the neighborhood of the North Cape. I know of nothing that comes within the range of tourist experiences that will make a more lasting impression on the memory than a day or two in the region of the midnight sun.

For the student, the professional man, the overworked generally, and especially those whose brains are over-worked, there is no tour that will be more beneficial than the one I propose briefly to sketch.

Go to Christiansand. Then, if you have never been to Norway, proceed to Christiania, and, after staying a day or two in that interesting town and neighborhood, continue your journey either to Trondhjem or Bergen, it matters not which, or, better still, if you can, do both. The trip to one, the other, or both, will give you a good idea of scenery in Norway. At either Bergen or Trondhjem take the steamer for Hammerfest. And then will commence one of the most delightful voyages it is possible to make.

The steamer keeps close to the shore, and the shore is the most curious in the world ; you have but to look at a map to see its wonderful indentations ; you cannot realize them until you find yourself now in a bay or a cove, now among groups of islands, then in the midst of a fjord, with

sheer rocks rising perpendicularly from the sea, and anon in the harbor of a little town, with groups of wondering peasantry around you. You will see some parts of the coast so wild that you cannot credit the fact that human beings can be found there, and you will find verdant nooks so peaceful and pretty that you will be tempted to think that there, away from the world, you would like to build your house and finish up your days. At one time you will come to the haunts of water-fowl innumerable ; at another a shoal of whales will be around you.

The towns and villages at which you will halt will have a special charm. The curious costumes of the people ; the antique architecture of their houses and churches ; the good but old-fashioned contrivances connected with their fishing avocations—all these will be novel.

Among the red-letter days of the trip will be a sail among the Loffoden Islands, "jagged as the jaws of a shark," and swarming with sea-fowl ; a glimpse at the neighborhood of the Maelström, so celebrated in fable ; a visit to a Lapp encampment, and an occasional stroll through some of the towns at which the steamer stays. Tromsö is one of these halting-places : it is a modern town, which has grown rapidly. It was only founded in 1794, and in 1816 had but three hundred inhabitants ; now, owing to the success of its herring-fishery, it has grown strangely for Norway, and has a population of over 5000. It is charmingly situated on an island, and its rich fertility contrasts most singularly with the wildness of the surrounding mountains. Hammerfest, too, is interesting, not only because it is the most northerly town in the world, and because "in the season" it is crowded with representatives of all nations, who come here to trade, but because here you are within the limits of the region of the Midnight Sun, and from here you will take your boat (unless you continue by the Vadsö steamer) for the North Cape.

The effect of the midnight sun has been variously described. Carlyle revels in the idea that while all the nations of the earth are sleeping, you here stand in the presence of

that great power which will wake them all; Bayard Taylor delights in the gorgeous coloring; and each traveler has some new poetic thought to register. For myself the midnight sun has a solemnity which nothing else in nature has. Midnight is solemn in the darkness; it is a hundredfold more solemn in the glare of sunlight, richer than ever is sun under tropical skies. It is "silence, as of death;" not the hum of a bird, not the buzz of an insect, not the distant voice of a human being. Silence palpable. You do not feel drowsy, though it is midnight; you feel a strange fear creep over you as if in a nightmare, and dare not speak; you think what if it should be true that the world is in its last sleep, and you are the last living ones, yourselves on the verge of the Eternal Ocean?

It is amusing, afterwards, to think of the way in which you landed on your excursion to the North Cape; how everyone seemed impressed with the same idea that it was a sacrilege to break the silence, and the party that set forth in high spirits had settled down into the gravity of a funeral *cortège*. And it is strange how the stillness and awfulness, felt while in the little boat upon the silent sea, held you spell-bound and entranced; and the spell could not be broken until you set to work on the difficult climb to the head of the North Cape. And when you reached the top you felt—well, I don't know how.

To some standing on the highest part of the plateau, a thousand feet above the sea, and looking away to that great unknown Arctic Ocean, it has seemed as if they had come to the end of the earth; that they were gazing upon the confines of the eternal regions; that they saw in the distance the outlines of the land of which it is said, "There is no night there."

Every tourist mind has its own particular magnet. I do not know what event in the history of a tourist life most attracts my memory. No one can ever forget the day when he first gazes upon Jerusalem from the Mount of Olives; or Damascus seen from the Mount of Mohammed; or the sunny morning when he rounds the Golden Horn, and Constantinople bursts on the view.

These are memories which never grow dim ; and I am inclined to think that when a tourist finds himself in a small boat at midnight, drawing near to the North Cape in the midst of the most gorgeous sunlight ever seen, he has found a sensation which will be green in his memory to the day of his death.

In this brief paper I have not found time to be practical. The trip to the North Cape should be made in June or July ; it may be made in August or September, and in the latter month there is a chance of seeing the first blushes of the Aurora Borealis. I am much inclined to think that a winter excursion to the North Cape would be one of the grandest sensations that the tourist's heart could wish, but of this I am not in a position to judge.

If my readers are like myself, they never bring one summer trip to a close before they have arranged in their own minds for the next ; and so I throw out the hint that ere the North Cape shall be scribbled over with the names of Smith and Jones ; ere excursion boats, with Ethiopian serenaders on board, shall put forth from Hammerfest ; ere a big hotel shall stand upon the summit, and a man shall blow a horn to announce when "the sun is at its best," it will be well to consider whether a trip to the North Cape is not worth serious consideration.

Old Antwerp

By ROSE G. KINGSLEY

IN Flanders there are quaint cities, beautiful buildings, glorious pictures, and a tangled mass of historic interest.

Thus it came to pass that we went to Brussels, and three days later we were steaming out into the (to us) unknown, on our way to Antwerp. Our three days had been chiefly spent in making closer acquaintance with Flemish art in the museum of the capital—a collection most valuable and typical, a collection too often ignored or hastily glanced through by the tourist, who, if by chance he cares for such things, hurries on to see Memling at Bruges, Van Eyck at Ghent, or Rubens at Antwerp. He forgets, or does not know, that, as Fromentin justly says, "Belgium is a magnificent book of art, of which, happily for provincial glory, the chapters are scattered everywhere, but of which the preface is at Brussels, and only at Brussels. To all who are tempted to skip the preface in order to get at the book, I should say they are wrong—that they open the book too soon and will read it ill." We therefore studied the preface with some care, and now were about to turn the first page of the book itself. . . .

Everything seemed new, pretty, and amusing, as the train cleared the last of the suburbs of Brussels. The sun shone on the long lines of poplars, just burnished with autumn's gold, which cast their shadows on damp green meadows ruled off into squares with almost mathematical precision. Here a man in a brown apron and brilliant crim-

son sleeves was raking up the aftermath off a water-meadow. There a girl in a blue frock was herding black and white cows, and we began to think of Cuyp. Then we saw, across flat stretches of smiling country, pointed steeples and red roofs, showing behind thick groups of trees in a soft blue haze, while an old wind-mill on blackened wooden stilts, a little donkey-cart, and a group of crimson-jacketed peasants in the foreground made us think of some of Teniers the Younger's landscapes, and recollect that we must be close to Drei Torren, his house at Perck. Then came Malines, our first brown canal, with red-sailed, green- and black-painted barges, the great cathedral rising through a screen of trees over scarlet house-roofs, a picturesque crowd on the platform of burly, shovel-hatted priests, nuns with black shawls over their white caps, men with blue blouses and brilliant yellow *sabots*—and we thought of Prout. It was all so absurdly like what we had expected, with a difference —just the difference between art and nature.

Then came more flat country, more canals, more fields, more absurd cocky little wheat-ricks, with hardly corn enough in them to make a loaf of bread, more white and purple lupins on the embankments, more red-tiled roofs, half thatch, half tile, which M—— pronounced "most æsthetic," more sun, yes, that was perhaps the best of all. Then a great green fort, and we were at Antwerp.

We hardly gave ourselves time to swallow a hasty *déjeûner*, and then set forth with the charming feeling that we had nothing to do but amuse ourselves. We had not an idea of where we were going, or what we meant to see. All was new, therefore all to us was worth seeing. Only a vague impression floated in our minds that we ought before long to find our way to the cathedral. It was not hard to find; in fact, it was impossible to miss it, for, as we sauntered down the Place de Meir, the golden clock-face on the steeple shone before us like a beacon over the high house roofs, and

> "Far up, the carillon did search
> The wind."

We pushed our way past the odious touters, clamorously asking in vile French and still viler English if we wished to see the cathedral? had we seen it? did we know we ought to see it? finally, of course, should they show it to us? We were in too mighty a presence to heed them. Above us, almost painfully high, rose the great steeple, pointing up to the clear blue sky. We stood at a corner of the old Marché and gazed and gazed, hardly able at first to take in the idea of its real height, foreshortened as it is when one stands so near. It grew upon us, revealed itself to us, as we looked and wondered, and ever after, while in the city, we seemed to feel its protecting presence, even though it might be hidden from our eyes. And we thought how often must weary sailors, beating up the stormy waters of the North Sea, have longed for a glimpse of that weather-stained tower, token to them of home and safety after some perilous voyage to bring gold and sugar from the New World, or priceless stuffs and spices from the Indies and far Cathay! Or as painters, after long study in the schools of Rome and Venice, made their slow way northward once more across the Alps, to add fresh glory to the Guild of St. Luke, how eagerly they must have watched for the first sight of their cathedral, pointing heavenward out of the flat misty plain, as if to lift their minds from earth into some purer atmosphere!

Yet, splendid as is the casket, still more precious is the treasure it contains. Many men have built cathedrals. There has been but one Rubens; and of all Rubens' works, the "Descent from the Cross" enshrined in Antwerp Cathedral is, one may venture to say without fear of criticism, unquestionably the most wonderful and beautiful. There is a sobriety, a reticence, about it in color, in movement, in drawing, in the exquisite balance of light and shade, in the nobility and yet tenderness of conception, which one hardly looks for in the painter, splendid though he be, of the Assumption of the Virgin over the high altar close by, still less of the gorgeous but revolting Marie de Medici series in the Louvre. To quote Fromentin once more, "*Tout y est*

contenu, concis, laconique comme dans une page du texte sacré." Let those who judge him merely by pictures such as the last go to Antwerp, and, casting aside all preconceived ideas, say then whether Peter Paul Rubens shall not be pardoned all his carelessness, his coarseness—yes, even his horrors —and be to them henceforth the painter of the noble and majestic "Descent from the Cross."

It was long before we could summon resolution to leave the cathedral. Half a dozen times we started, as many times we turned back to the great triptych to impress some detail more firmly on our minds; and at last, when the door swung to behind us, and we saw the great master's statue standing in dusty sunshine in the Place Verte, we were in no humor for more sight-seeing. So we wandered happily and aimlessly on, now enchanted by some *pignon espagnol*, the quaint gable running up in a series of steps, which was introduced, some say, by the Spaniards, now stopping to scribble down the details of a bit of costume, or to look at a street shrine on a corner house, with its figure and lamp and tinsel flowers, until at last we found ourselves on the quays.

Here, where Van Noort, where Rubens, where Jordaens made studies among the rude fishermen for their pictures of the Miraculous Draught—here, where generations of painters from their day down to our own have loved to dwell upon the changing aspects of the quiet river, the hurrying quays, the picturesque people—here was indeed a spot where we humble disciples of Apelles might hope to gather inspiration from the example of the great departed. So we hunted out a pile of wood on the very brink of the river, a quiet corner where we ran no risk of being trampled underfoot by gigantic Flemish dray-horses or knocked down by heavily laden wagons; and there we sat peacefully, sketching the long reaches of the Scheldt bathed in a flood of golden haze. Up it sailed long low boats, floating past us with full red sails, flat, faint, wooded shores behind them, a tall smoking chimney or little church-spire breaking the blue line of the trees here and there. The river reaches were full of repose to eye and mind alike, and our thoughts turned instinctively

to Van de Velde, to his glassy water, where little gleams catch the curl of some lazy ripple, and his skiffs and schooners floating in a vail of filmy gold, which warms his usual pearly grays, while they in turn give a sober undertone to the golden glory. A contrast to the quiet river was the foreground of the picture, where a steamer was lading for some distant voyage, funnels, rigging, hull, a great mass of black and brown against the pale golden water, and the bustling quay, where horses, men, carriages, foot-passengers, long low trolleys—apparently on only two wheels, so minute were the front pair—piled high with bales and barrels, were jumbled in inextricable confusion.

We were working away, thankful that every one was too full of his own business to care to look at us, when suddenly a pleasant smell of burning made us wonder whether the municipality were trying to fumigate the town and overpower the very unsavory odors around us. Presently blacks began to settle on our sketch-books. Then burning morsels flew through the air, and, turning round, we saw that a quantity of bales standing on the quay twenty yards behind us were on fire. Half a dozen bystanders looked on with true Flemish phlegm. A woman in blue and gray, with yellow *sabots*, stood watching on a fallen mast. Then others began to arrive, and as the flames rose higher some slight interest arose with them. The gray woman turned and ran for the *pompiers*. The interest grew and spread among the gathering crowd. Soldiers just landing from the Tête de Flandre caught sight of the crackling flames and rushed towards them. Stevedores left the lading of their steamer, and, leaping across masts and spars, with sacks over their heads and their blue blouses puffed into balloons by the wind, rushed to the scene of action. M—— and I thought it prudent to retire to a street-corner, away from the turmoil.

Such a street! all in warm shade, with rich reds and grays and browns among its high-roofed houses. Out of the Fish-Market close by poured a motley crowd—men in blue jerseys, men in red jerkins, men in shirt-sleeves, little lads in

sailor-clothes with bright yellow *sabots*, women with yellow *sabots* and blue stockings, or yellow stockings and black *sabots*, or black shoes and pink stockings, women in three-cornered shawls, women in long black cloaks. The tardily-awakened interest had grown into intense excitement. Every one ran—soldiers, ladies, porters, priests; and as we left the Quai Vandyck to go home, and looked up at the stone lace-work of the cathedral tower against the bright blue sky, the *pompiers* raced past us with their little hand-engine, to find that the fire had burnt itself out.

Too tired by our long day to walk any more, but unwilling to waste the evening in our rooms, we chartered a comfortable little carriage and drove down to the Port just after sunset. The cathedral tower stood stately and sombre against a pale-pink sky. Against this delicate background, too, we caught fantastic irregular outlines of old houses at every turn of the streets. The busy Quai Vandyck we now saw under a completely changed aspect. The pink of the upper sky melted into yellow, the yellow into a heavy blue-purple blending with the farther shore of the river. The bands of color, intensified by black masts and sails rising from yet blacker hulls lying under the bank, were reflected in the opalescent water; while fluttering pennons on a forest of fishing-boats looked, as M—— said, "like a shoal of minnows."

As we drove along the growing darkness the scene was weird and strange. We caught glimpses of black figures, with heavy burdens on their shoulders, rushing up and down gangways of loading steamers like the demons of some Walpurgisnacht, lighted by oil-cans flaming from their two spouts. Then came a street of ancient houses—we could see only the steps of their gables against the sky—and, instead of a roadway below, the street was full of water and ships, sails half furled, lights, red, green, and yellow, repeating themselves in long reflections amid the black boats on the smooth surface of the canal. Across the river steamer-lights crept to and fro. Low carts, with huge horses that brought to mind Paul Potter's etching of "The

Friesland Horse,'' grazed past us. Then came a black mass —the house of the Hanseatic League. Then great docks like the sea, stretching away infinitely into the darkness, a mysterious confusion of masts, spars, cordage, chimneys, lights, water, black hulls. On shore a tangle of carts and trolleys standing horseless, barrels, cotton-bales, wool-sacks. A locomotive snorted past us in dangerous proximity, appearing one knew not from whence, disappearing again into the gloom. Electric lights flashed on ahead far up the line. We passed more huge warehouses, more canals, more narrow streets. Then the Port and its strange life, its flaming oil-cans, its murky darkness, were left behind, and we found ourselves back in nineteenth-century civilization, driving down the new Frenchified boulevards, with only the statue of David Teniers and the Italian *façade* of Rubens' house to remind us where we were.

EUROPE

St. Petersburg

By SAMUEL S. COX

OUR steamer glides on what becomes a summer sea of smoothness. The few passengers begin to appear on deck and stretch their vision for the first glance at the imperial city. Upon the right, snug amidst its royal greenery, lies the town of Peterhoff and its domes, minarets, and imperial palace, with its splendid woods and waters. Our time is opportune for a glorious sight, for it is sunset, and the sun goes down here at a discreet hour. Bright dots of burnished gold begin faintly to spangle the sky in front. They are domes, half hidden by the mist and the distance. Then a tall spire, also gilded, brilliant and needle-like, pierces the heavens! It is the Admiralty spire, or perhaps that of the Church of the Fortress, the Westminster of Russia, the mausoleum of its dead kings. A few minutes, and St. Isaac's Church, the St. Peter's of Russia, looms up in majestic and stupendous proportions. Its copper dome is surrounded by four others, all ablaze, like burnished gold, and surmounted by the gilded Greek cross which towers aloft, above the bronze saints and angels which people its architraves and its corners, its roofs and its pillared granite cupola! Beneath it is a city whose roofs of varied hue cover almost a million of people; a city the outgrowth from a swamp in less than two hundred years.

We enter the Neva, whose divided waters flow in canals and lagoons between grand pavements and superb palaces.

At length we are moored—alas! how soon the beatific vision vanishes!—amidst the traffic and troubles of trade. We are to undergo a search, the first yet made with rigor since our journey began. Nor can I complain of this rigor. Recent events make police regulations here necessarily stringent. But was it not a little humorous to see the long-robed customs' officers scrutinize the heterogeneous matters in our trunks? Nothing was found contraband but—what think you?—New York journals!

We had received a mail at Stockholm, and expected to read up fully in St. Petersburg. Some dozen of these journals lay in a pile in my wife's trunk. It would have done you good to see the leonine voracity with which these papers were seized. Who was it that talked of the thousand tongues of the press, clearer far than the silver trumpet of the jubilee—louder than the voice of the herald at the games? These tongues had not a word of protest; the music of their trumpet was frozen like that of the veracious traveler. Out of the bundle tumbled an engraving of Charles XII., the old enemy of Russia! Did I tremble for the ominous specter of this dead madcap of Sweden? The courteous officer handed it back with a gracious smile to my wife, who reached for the rest of the bundle, while her face flushed at the indignity to and the confusion of her domestic arrangements. But, with a hasty push and an impetuous "Niebt! Niebt!" (No! no!) our papers were confiscated to the state. The "Sun" would not go down in this land; the "Tribune" was a voiceless oracle; the "World" ceased to "move after all"; the "Times" were out of joint, and the "Express" came to a dead halt! But all this had its compensations; for soon we cross the great bridge, and are housed in the Hôtel d'Angleterre, where though no papers were found in our expected mail, plenty of news as to the President, and the land we love, were found in letters, and these twelve days only from New York.

There shine into my windows, in dazzling glitter, the copper domes of that marvel of cathedrals, St. Isaac's, which we saw from afar, upon whose sides and pedestals, encamp-

ing night and day about us, are the angels of this edifice of beauty! The guns of the citadel thunder out the memory of this, the birthday of the Empress of this vast empire; and, in spite of all ominous auguries to the contrary, we sojourn in peace and safety in this city of beauty and bazaars, palaces and pigeons, monuments and minarets, domes and deviltry, ceremonies and cemeteries, armies and assassinations!

Why does everybody, except the Russians, call this city St. Petersburg? It was not named after St. Peter, but Peter the Great. It is a magnificent city of palaces and wide avenues. Its very hospitals and barracks are palatial, and there is no narrowness to any thoroughfare. Its domes, where not painted blue with golden stars, or green, are gilded, and make the city seem like a Constantinople new-risen upon the North. In fact, with its canals and rivers, its streets, columns and palaces, its churches, and their outside and inside decorations, St. Petersburg combines in itself and in its vistas, in its plan and its magnificence, Venice, Amsterdam, Paris, and Constantinople. If it were not stucco on the yellow houses, if it were only solid stone, how much more impressive would be its mighty and superb aspect! Only one palace is of granite, and but one church, St. Isaac's, of marble.

The energy which has reared such a city out of a bog in less than two centuries betokens the one-man energy which its founder inspired and illustrated. Still, St. Petersburg, as a look from an elevation will show, unless it be approached as we approached it, by the gulf and river, is a vast plain, if not a swamp. The Neva saves it. It is a splendid river, and makes its delta where the city stands. It is a city of islands, connected by beautiful bridges. Red granite faces the banks and makes the quays solid structures. Everything is colossal like the empire. The informing genius of the male gender is Peter the Great, and of the other gender Catherine II. If these sovereigns were insane and they were very peculiar for Russia, more insanity is desirable among the princes of the earth. Peter opened this city, as he said, for a window for Russia to look out of into

civilized Europe. Peter was a useful emperor for Russia and his time, although he did many diabolical things. . . .

The Russian humor is like that of Byron, which Edgar Poe said was too savage to be laughed at. Some one calls it grotesque savagery, and illustrates it by the freaks of Russian princes and czars. John the Terrible thought there was no church like that of St. Basil, and put out the architect's eyes to end any future work of that gifted artist. Peter the Great proposed to hang the lawyers in his realm. He thought one was too much. There is a story of the Empress Annie, who married off her favorite dwarf or fool in an ice palace and gave them an icy marriage-bed, where they froze to death. This I have seen pictured in fine color and delineation. It was a Russian pleasantry. Catherine II. slaughtered many of the men whom she did not love—out of a vagary of fun. Most of the people here hold their revels in grave-yards. Peter stuffed the skin of one of his favorite servants—a tall fellow—and put him in a museum. Paul issued a ukase against shoe-strings and round hats. He was fond of colors, and had fantastic hues painted on bridges and gates. It is hardly mirthful to make an eagle out of gun-flints and swords, or portray a group in heaven of Russians looking down on Jews, Germans, and negroes. But this is Muscovite merriment. In the Moscow markets the slaughtered animals are stuffed with sawdust and look odd. It is said of the Emperor Paul that he dug up the bones of those who murdered his father to pulverize them and blow them to the winds. He arrested an Englishman for not taking off his hat to royalty, and ordered him to wear magnifying-glasses. This was jolly but not exceptional, for the Russian is not adept in making genial fun. The climate is not genial.

The drosky is an odd-looking fleet sort of cab, which barely seats two. It is near the ground, and if it upsets, it is safer than when it is going. Its speed over the bowlders is immense. Its driver is good, and good-humored. The carts, wagons, drays, as well as droskies, have a peculiar harness for the horse. The eminent characteristic of the

establishment is a sort of harness or yoke, about four or five feet above the animal's shoulders. This is not peculiar to Russia, but it is here developed in a higher degree. It rests on the shafts, and somehow, as I believe (*loquor non inexpertus*), the horse has freer motion and an easier draught under this yoke. It does not strain him about the vitalities like our harness. He seems to run loosely as under a canopy of green, though many of the yokes are thus painted with emblems and owners' names on them.

While watching a caravan of these yokes which do not oppress, I had occasion to look through a long line of them, fifty in number, carrying the rye-flour in sacks across the city, and discovered another peculiarity. There is a stout rope from the horse's shoulders to the front axle, which extends some two feet out of the hub to hold these extra traces. The strain seemed to be upon these traces as much as upon the shafts; and just as I was driving in a hurried way—for our driver was dashing at the usual pace—one of our wheels came off and rolled a rod, and down we were! Thanks to the good gray team and some promptitude, we escaped harm; while sympathies all about from the gathered crowd showed that there was much kindness upon the street. . . .

What sights to our unaccustomed eyes are on every side as we drive! Little Tartar children dressed in green; the soldiers with heavy coats and long spears, from the tribes of the Don, the Cossack of history; hussars of red, gay uniform; Caucasian soldiers, with dresses as gay as the Spahis of Algiers—with the various large-breeched natives, in top-boots, or with red shirts only covered by a dark vest—add to the spectacle.

The avenues are wide, and lined with high yellow buildings, palaces, and government edifices, all proportionate to the immense empire of the two continents. The signs look quaint with their peculiar lettering, and the houses, which rarely have doors in front, are unusual in their aspect. The sheet-iron roofs painted green and red; the police in their green uniform and sword; the rivers and canals, full of

strange craft darting about in active business, some from far inland, laden with grain, and some bearing passengers over the Neva and under its bridges—all these odd pictures contribute to keep us on the alert. We drive along the Neva, whose splendid avenues and quays are one. They are lined by the same yellow buildings, where the families of the royal house reside. Then we cross the Neva on a pontoon bridge, called the Troutsen, from which a splendid view is had of the spreading waters of the river—bounded at one end by the elegant edifice of the Commercial Exchange. In winter the river is used for races upon the ice.

Then we turn into Alexandria Park, and admire the villas of the merchant princes upon the lagoons into which the Neva is divided. From the rounding point we perceive the Finland Gulf, Cronstadt, and Peterhoff, and all the points which we passed on our route hither. Then we turn into the Zoological Gardens, where white bears and young cubs, wolves, and walruses, along with thousands of pleasure-seekers, together enjoy the brilliant mimic scenes till midnight. There we found (for fifteen cents only) a splendid theater, out-doors, and famous dogs and monkeys performing, followed by a ballet in pantomime, in which Greeks and Turks play parts, and in which the heroes and heroines of the former are lifted through a gorgeous display of many-colored lights into clouds of glory, amidst the cheers of the populace, which never forgets that Turkey is its natural foe, and that Constantinople is its natural if not national capital. . . .

Upon our drive we notice some fine triumphal arches—copied after the classic models and those of other countries—and other monuments, but none equals the superb Alexander column, erected in 1832. It is a solid shaft of red granite, the greatest monolith of the world. It is based on an enormous block of red granite. There is an angel on the summit. The monument is one hundred and fifty-four feet high, and has a noble and inspiring grace and grandeur. Other statues to Peter and Catherine, besides statues to soldiers and poets, make every square of this grand city

monumental. There is also an equestrian statue of Nicholas. The horse is like that of General Jackson's in Lafayette Square, Washington, and stands upon his hind legs only. It is so much more elegantly and gracefully posed that I could not but compare it to the disadvantage of our own favorite charger.

On no day have we failed to find something about Peter the Great! In "the summer gardens" there is an old palace, where are sacred relics of his handiwork, such as chairs, cabinets, and Chinese designs. The kitchen and bath-room have tiles of the old Dutch style, which he greatly affected. The chimney is as huge as the room. Within is a prison, where he is said to have kept his personal enemies, without benefit of habeas corpus or clergy. It looks gloomy, and the grating seems to be peculiarly adapted to a jail; but it is not very likely that Peter would have enjoyed such society in his own favorite home. . . .

The drives in the parks are beautiful. Therein is a lovely palace where lived the Princess Dagmar before she became empress. The armory here forms a museum of wonderful interest, for it has gifts of untold value from Spain to Persia and beyond. Every kind of gun, sword, and dagger is here, and those from the conquered sheiks and khans of Asia shine resplendent in jewels by the mass. The saddle-cloths from the Orient, and especially the presents from the Shah of Persia, are the richest known to any collection in the world. Among the manifold things here to be seen are the lock and key found near the site of the temple of Jerusalem; the jewelry of the harem of the Khan of Khiva—a wonderful collection for female adornment; Chevalier Bayard's cuirass; a spear which opens after it enters the body; an alarm clock which shoots off a gun to awaken the sleeper; the flags taken in the Hungarian insurrection of 1849; the baton of Schamyl, the Circassian chief, who fought Russia so many years; the emeralds, by the quantity, which the Shah of Persia sent to the Czar; the "horse furniture" of the Indian sheiks, and a circular knife which they used to hurl, which cut your head off before you could say your

little prayer; and as a proper apex to this collection of curious gifts and gems, worth alone sixty millions of rubles, the sword of Mazeppa, the brave hetman of the Poles, who will never cease to ride through histrionic and historic dangers on that fierce untamed charger of the desert! . . .

If you would find in full perfection the richest in all respects of all the palaces in the world, I suppose the Winter Palace would be that superlative edifice. Since the attempt to blow it up as the royal people were about to dine it has been closed. I made an effort, through Colonel Hoffman, our chargé d'affaires, to obtain an entrance for the Americans now stopping here, but vainly. Recent events forbade. The Czar himself will not go into it again. It is shut for two years. This was a disappointment, but it was partly compensated for by admission to the "Hermitage," which is a part or a neighbor to the Winter Palace. But the Hermitage seems to be enough for all our time.

All the "masters," old and young, native and foreign, are in profusion here, as well as specimens of the exhaustless mineral glories of Russia and Siberia in every form of carved beauty and tasteful grace. Museums of ancient statuary, coins, jewels, and intaglios, illustrating every age and phase of history, and, as a climax of interest, the relics of the city of Kertch and other palaces in the Greek colonies of two thousand years ago—now in southern Russia—are here. This exhibition supplements General Cesnola's Cyprian antiquities, and would add fresh interest to our home museum. Upon these Greek relics are found such dresses, worn by the ancient Scythians, as our drosky-drivers now wear, and basreliefs on these old vases show horses managed exactly as my former Ohio constituent, Rarey, used to quell the worst "Cruisers" of the equestrian world.

But, as a small American boy remarked at the end of our six hours' promenade through these corridors, "We feel two thousand years old ourselves, we have traveled so much and so far."

Do you ask, is Peter the Great to be found at the Hermitage? Surely, he is everywhere. Here are his lathes,

tools, and knives, and *plaques*, or disks of copper and ivory, cut by his own hand. Here, too, is his measuring-staff, which was a foot taller than any one in our party, and that of his valet, a foot taller than Peter! How could he be such a warrior, statesman, mechanic, and architect, ruling such an immense and incongruous people so well, and make so many knickknacks with his own hand and out of his own mechanical contrivance? This conundrum puzzles the brain. We are curious to know the secret of Peter's power, and of the glamour of grandeur around this giant of Muscovite history and modern civilization. . . .

The staircase of this palace of the Hermitage has no equal in its size and proportion. Outside, there are immense black colossal porphyry figures, bearing up the portico, each an Atlas itself. They are emblems of the eighty millions of subjects, which from every rank uphold this extended empire. With its sixty millions of farmers, now free; its seven millions of villagers, its one million of gentry, nobles, and officers, and its four millions of military men and their families, it would seem that the vast edifice of the Russian power would be stable, supported by such Atlantean shoulders. Is it really so? Time will tell. For the welfare of all it is to be wished that there was more comfort and elevation among these vast masses of men.

ASIA

A Mecca Pilgrim in Disguise

By RICHARD F. BURTON

IN the autumn of 1852, I offered my services to the Royal Geographical Society of London, for the purpose of removing that opprobrium to modern adventure, the huge white blot which in our map denotes the eastern and central regions of Arabia.

On the evening of April 3, 1853, I left London and upon reaching Suez about three months later left there for Djidda, the port of Mecca. Immense was the confusion on the eventful day of our departure. Suppose us standing on the beach on the morning of a fiery July day, carefully watching our hurriedly-packed goods and chattels, surrounded by a mob of idlers who are not too proud to pick up waifs and strays, while pilgrims rush about apparently mad, and friends are weeping, acquaintances vociferating adieus, boatmen demanding fees, shopmen claiming debts, women shrieking and talking with inconceivable power, children crying—in short, for an hour or so we were in the thick of a human storm. To confound confusion, the boatmen have moored their skiff half a dozen yards away from the shore, lest the porters should be unable to make more than double their fare from the pilgrims.

When on the water the pilgrims offer this prayer: "O Allah, O Exalted, O Almighty, O All-pitiful, O All-powerful, thou art my God, and sufficeth to me the knowledge of it! Glorified be the Lord my Lord, and glorified be the

faith my faith! Thou givest victory to whom thou pleasest, and thou art the glorious, the merciful! We pray thee for safety in our goings-forth and in our standings-still, in our words and our designs, in our dangers of temptation and doubts, and the secret designs of our hearts. Subject unto us this sea, even as thou didst subject the deep to Moses, and as thou didst subject the fire to Abraham, and as thou didst subject the iron to David, and as thou didst subject the wind, and the devils, and genii, and mankind to Solomon, and as thou didst subject the moon and El-Burak to Mohammed, upon whom be Allah's mercy and His blessing! And subject unto us all the seas in earth and heaven, in the visible and in thine invisible worlds, the sea of this life, and the sea of futurity. O thou who reignest over everything, and unto whom all things return, Khyar! Khyar!"

We traveled through a country fantastic in its desolation —a mass of huge hills, barren plains, and desert vales. Even the sturdy acacias here failed, and in some places the camel-grass could not find earth enough to take root in. The road wound among mountains, rocks, and hills of granite, over broken ground, flanked by huge blocks and bowlders, piled up as if man's art had aided nature to disfigure herself. Vast clefts seemed like scars on the hideous face of earth; here they widened into dark caves, there they were choked up with glistening drift sand. Not a bird or a beast was to be seen or heard; their presence would have argued the vicinity of water, and though my companions opined that Bedouins were lurking among the rocks, I decided that these Bedouins were the creatures of their fears. Above, a sky like polished blue steel, with a tremendous blaze of yellow light, glared upon us, without the thinnest veil of mist or cloud. The distant prospect, indeed, was more attractive than the near view, because it borrowed a bright azure tinge from the intervening atmosphere; but the jagged peaks and the perpendicular streaks of shadow down the flanks of the mountainous background showed that no change for the better was yet in store for us.

We traveled that night up a dry river-course in an east-

erly direction, and at early dawn found ourselves in an ill-famed gorge, called *Shuab el-Hadj* (the "Pilgrim's Pass"). The loudest talkers became silent as we neared it, and their countenances showed apprehension written in legible characters. Presently, from the high, precipitous cliff on our left, thin blue curls of smoke—somehow or other they caught every eye—rose in the air, and instantly afterwards rang the loud, sharp cracks of the hill-men's matchlocks, echoed by the rocks on the right. My *shugduf* had been broken by the camel's falling during the night, so I called out to Mansúr that we had better splice the frame-work with a bit of rope; he looked up, saw me laughing, and with an ejaculation of disgust disappeared. A number of Bedouins were to be seen swarming like hornets over the crests of the rocks, boys as well as men carrying huge weapons, and climbing with the agility of cats. They took up comfortable places in the cut-throat eminence, and began firing upon us with perfect convenience to themselves.

The height of the hills and the glare of the rising sun prevented my seeing objects very distinctly, but my companions pointed out to me places where the rock had been scarped and a kind of breastwork of rough stones—the Sangah of Afghanistan—piled up as a defense, and a rest for the long barrel of the matchlock. It was useless to challenge the Bedouins to come down and fight us upon the plain like men; and it was equally unprofitable for our escort to fire upon a foe ensconced behind stones. We had, therefore, nothing to do but to blaze away as much powder and to veil ourselves in as much smoke as possible; the result of the affair was that we lost twelve men, besides camels and other beasts of burden. Though the bandits showed no symptoms of bravery, and confined themselves to slaughtering the enemy from their hill-top, my companions seemed to consider this questionable affair a most gallant exploit.

Half an hour after leaving the Wady el-Akik, or "Blessed Valley," we came to a huge flight of steps, roughly cut in a long, broad line of black, scoriaceous

basalt. This is called the *Mudarraj*, or flight of steps over the western ridge of the so-called El-Harratain; it is holy ground, for the Prophet spoke well of it. Arrived at the top, we passed through a lane of black scoria, with steep banks on both sides, and, after a few minutes, a full view of the city suddenly opened on us. We halted our beasts as if by word of command. All of us descended, in imitation of the pious of old, and sat down, jaded and hungry as we were, to feast our eyes with a view of the Holy City. The prayer was, "O Allah! this is the *Haram* (sanctuary) of the Prophet; make it to us a protection from hell fire, and a refuge from eternal punishment! O, open the gates of thy mercy, and let us pass through them to the land of joy!"

As we looked eastward, the sun arose out of the horizon of low hills, blurred and dotted with small tufted trees, which gained a giant stature from the morning mists, and the earth was stained with gold and purple. Before us lay a spacious plain, bounded in front by the undulating ground of Nedjed; on the left was a grim barrier of rocks, the celebrated Mount Ohod, with a clump of verdure and a white dome or two nestling at its base. Rightward, broad streaks of lilac-colored mists were thick with gathered dew, there pierced and thinned by the morning rays, stretched over the date-groves and the gardens of Kuba, which stood out in emerald-green from the dull tawny surface of the plain. Below, at the distance of about two miles, lay El Medina; at first sight it appeared a large place, but a closer inspection proved the impression to be an erroneous one.

Passing through muddy streets—they had been freshly watered before evening-time—I came suddenly upon the Prophet's mosque. Like that at Mecca, the approach is choked up by ignoble buildings, some actually touching the holy *enceinte*, others separated by a lane compared with which the road around St. Paul's is a Vatican square. There is no outer front, no general aspect of the Prophet's mosque; consequently, as a building it has neither beauty nor dignity. And entering the Bab el-Rahmah—the Gate of Pity—by a diminutive flight of steps, I was astonished at

the mean and tawdry appearance of a place so universally venerated in the Moslem world. It is not like the Meccan mosque, grand and simple, the expression of a single sublime idea; the longer I looked at it the more it suggested the resemblance of a museum of second-rate art, a curiosity-shop, full of ornaments that are not accessories, and decorated with pauper splendor.

Our days in Medina were spent thus: At dawn we arose, washed, prayed, and broke our fast upon a crust of stale bread, before smoking a pipe and drinking a cup of coffee. Then it was time to dress, to mount, and to visit the Haram in one of the holy places outside the city. Returning before the sun became intolerable, we sat together, and with conversation, shishas and chibouques, coffee and cold water perfumed with mastich-smoke, we whiled away the time till our *ariston*, an early dinner which appeared at the primitive hour of eleven A.M. The meal was served in the *majlis* on a large copper tray, sent from the upper apartments. Ejaculating "Bismillah"—the Moslem grace—we all sat around it, and dipped equal hands in the dishes set before us. We had usually unleavened bread, different kinds of meat and vegetable stews, and at the end of the first course plain boiled rice, eaten with spoons; then came the fruits, fresh dates, grapes, and pomegranates.

After dinner I used invariably to find some excuse—such as the habit of a "Kaylúlah" (midday siesta), or the being a "Saudawi" or person of melancholy temperament—to have a rug spread in the dark passage, and there to lie reading, dozing, smoking, or writing, all through the worst part of the day, from noon to sunset. Then came the hour for receiving and paying visits. The evening prayers ensued, either at home or in the Haram, followed by our supper, another substantial meal like the dinner, but more plentiful of bread, meat, vegetables, rice, and fruits. In the evening we sometimes dressed in common clothes and went to the café; sometimes, on festive occasions, we indulged in a late supper of sweetmeats, pomegranates, and dried fruits. Usually we sat upon mattresses spread upon the ground in

the open air at the Sheka's door, receiving evening visits, chatting, telling stories, and making merry, till each, as he felt the approach of the drowsy god, sank down into his proper place and fell asleep.

My companions and I joined the caravan from Damascus. The day's march was peculiarly Arabian. It was a desert peopled only with echoes—a place of death for what little there is to die in it—a wilderness, where, to use my companion's phrase, there is nothing but He (Allah). Nature, scalped, flayed, discovered her anatomy to the gazer's eye. The horizon was a sea of mirage; gigantic sand-columns whirled over the plain; and on both sides of our road were huge piles of bare rock, standing detached upon the surface of sand and clay. Here they appeared in oval lumps, heaped up with a semblance of symmetry; there a single bowlder stood, with its narrow foundation based upon a pedestal of low, dome-shaped rock. All are of a pink coarse-grained granite, which flakes off in large crusts under the influence of the atmosphere. . . .

On the morning of Sunday, September 11, 1853, about one A.M., I was aroused by general excitement "Mecca! Mecca!" cried some voices. I looked out from my litter. There at last it lay, the bourne of my long and weary pilgrimage, realizing the plans and hopes of many and many a year. The mirage medium of fancy invested the huge catafalque and its gloomy pall with peculiar charms. There were no giant fragments of hoar antiquity as in Egypt, no remains of graceful and harmonious beauty as in Greece and Italy, no barbaric gorgeousness as in the buildings of India; yet the view was strange, unique, and how few have looked upon the celebrated shrine! I may truly say that, of all the worshipers who clung weeping to the curtain, or who pressed their beating hearts to the stone, none felt for the moment a deeper emotion than did the Hadji from the far north. It was as if the poetical legends of the Arab spoke truth, and that the waving wings of angels, not the sweet breeze of morning, were agitating and swelling the black covering of the shrine. But, to confess humbling truth, theirs was the

high feeling of religious enthusiasm, mine was the ecstasy of gratified pride.

For a long time I stood looking in despair at the swarming crowd of Bedouin and other pilgrims that besieged the Black Stone. Our boy Mohammed was equal to the occasion. During our circuit he had displayed a fiery zeal against heresy and schism, by foully abusing every Persian in his path; and the inopportune introduction of hard words into his prayers made the latter a strange patchwork. He might, for instance, be repeating "and I take refuge with thee from ignominy in this world," when, "O thou rejected one, son of the rejected!" would be the interpolation addressed to some long-bearded Khorasani—"and in that to come—O hog and brother of a hoggess!" And so he continued till I wondered that no one dared to turn and rend him.

After vainly addressing the pilgrims, of whom nothing could be seen but a mosaic of occiputs and shoulder-blades, the boy Mohammed collected about half a dozen stalwart Meccans, with whose assistance, by sheer strength, we wedged our way into the thin and light-legged crowd. The Bedouins turned round upon us like wild cats, but they had no daggers. The season being autumn, they had not swelled themselves with milk for six months; and they had become such living mummies that I could have managed single-handed half a dozen of them. After thus reaching the stone, despite popular indignation, testified by impatient shouts, we monopolized the use of it for at least ten minutes. Whilst kissing it and rubbing hands and forehead upon it I narrowly observed it, and came away persuaded that it is a big aërolite. On September 12th, we mounted the litter and set out for Arafat, "the Mount of Wrestling in Prayer."

Arafat is about a six hours' march, or twelve miles, on the Taif road, due east of Mecca. We arrived there in a shorter time, but our weary camels, during the last third of the way, frequently threw themselves upon the ground. Human beings suffered more. Between Muna and Arafat I saw no less than five men fall down and die upon the high-

way; exhausted and moribund, they had dragged themselves out to give up the ghost where it departs to instant beatitude. The spectacle showed how easy it is to die in these latitudes; each man suddenly staggered, fell as if shot, and, after a brief convulsion, lay still as marble. The corpses were carefully taken up, and carelessly buried that same evening, in a vacant space among the crowds encamped upon the Arafat plain.

Nothing can be more picturesque than the view the mountain affords of the blue peaks behind, and the vast encampment scattered over the barren yellow plain below. On the north lay the regularly pitched camp of the guards that defend the unarmed pilgrims. To the eastward was the Scherif's encampment with the bright mahmals and the gilt knobs of the grander pavilions; whilst, on the southern and western sides, the tents of the vulgar crowded the ground, disposed in dowars, or circles, for penning cattle. After many calculations, I estimated the number to be not less than 50,000 of all ages and sexes. . . .

The ceremony of Ramy, or "stoning the Great Devil," is a curious sight. The "Shaytan el-Kabir" is a stone pillar backed by a wall.

As the ceremony must be performed on the first day by all pilgrims between sunrise and sunset, and as the fiend was malicious enough to appear in a rugged pass, the crowd makes the place dangerous. On one side of the road, which is not forty feet broad, stood a row of shops belonging principally to barbers. On the other side is the rugged wall of the pillar, with a *chevaux-de-frise* of Bedouins and naked boys. The narrow space was crowded with pilgrims, all struggling like drowning men to approach as near as possible to the Devil; it would have been easy to run over the heads of the mass. Among them were horsemen with rearing chargers. Bedouins on wild camels, and grandees on mules and asses, with outrunners, were breaking a way by assault and battery.

I had read Ali Bey's self-felicitations upon escaping this place with "only two wounds in the left leg," and had duly

provided myself with a hidden dagger. The precaution was not useless. Scarcely had my donkey entered the crowd than he was overthrown by a dromedary, and I found myself under the stamping and roaring beast's stomach. By a judicious use of the knife I avoided being trampled upon, and lost no time in escaping from a place so ignobly dangerous. Finding an opening at last, we approached within about five cubits of the place, and holding each stone between the thumb and forefinger of the ring-hand, cast it at the pillar, exclaiming, "In the name of Allah, and Allah is Almighty, I do this in hatred of the Fiend and to his shame."

The seven stones being duly thrown, we retired, and entering the barber's booth, took our places upon one of the earthen benches around it. This was the time to remove the *ihram*, or pilgrim's garb, and to return to *ihlal*, the normal state of El Islam. The barber shaved our heads, and, after trimming our beards and cutting our nails, made us repeat these words: "I purpose loosening my ihram according to the practice of the Prophet, whom may Allah bless and preserve! O Allah, make unto me in every hair, a light, a purity, and a generous reward! In the name of Allah, and Allah is Almighty!" At the conclusion of his labor the barber politely addressed to us a "Naiman," —Pleasure to you! To which we as ceremoniously replied, "Allah give thee pleasure!"

Later, upon returning to the city from the sacrifice of sheep in the valley of Muna, we bathed, and when noon drew nigh we repaired to the Haram for the purpose of hearing the sermon. Descending to the cloisters below the Bab el-Ziyadah, I stood wonderstruck by the scene before me. The vast quadrangle was crowded with worshipers sitting in long rows, and everywhere facing the central black tower; the showy colors of their dresses were not to be surpassed by a garden of the most brilliant flowers, and such diversity of detail would probably not be seen massed together in any other building upon earth. The women, a dull and somber-looking group, sat apart in their peculiar place. The Pasha

stood on the roof of Zem Zem, surrounded by guards in Nizam uniform. Where the principal ulema stationed themselves the crowd was thicker; and in the more auspicious spots naught was to be seen but a pavement of heads and shoulders.

Nothing seemed to move but a few dervishes, who, censer in hand, sidled through the rows and received the unsolicited alms of the faithful. Apparently in the midst, and raised above the crowd by the tall, pointed pulpit, whose gilt spire flamed in the sun, sat the preacher, an old man with snowy beard. The style of head-dress called *taylasan* covered his turban, which was white as his robes, and a short staff supported his left hand.

Presently he arose, took the staff in his right hand, pronounced a few inaudible words, and sat down again on one of the lower steps, whilst a Muezzin, at the foot of the pulpit, recited the call to sermon. Then the old man stood up and began to preach. As the majestic figure began to exert itself there was a deep silence. Presently a general "Amin" was intoned by the crowd at the conclusion of some long sentence. And at last, towards the end of the sermon, every third or fourth word was followed by the simultaneous rise and fall of thousands of voices.

I have seen the religious ceremonies of many lands, but never—nowhere—aught so solemn, so impressive, as this spectacle.

The Holy City

By ELIOT WARBURTON

THE road from Jaffa has been for 4000 years the highway between Jerusalem and the western plains that border on the sea, and its slippery rocks are so round and smooth as to render firm footing difficult. Chariots never could have been used here, and it would be impossible for cavalry to act, or even to advance against a hostile force. The scenery resembled that of the wildest glens of Scotland, only that here the gray crags were thickly tufted with aromatic shrubs, and instead of the pine, the sycamore, the olive, and the palm shaded the mountain's side.

We passed by the village of Jeremiah and the "Terebinthine Vale." In the last we recognize the scene of David's combat with Goliath, and its little brook still sparkles here as freshly as when he picked thence pebbles to smite the Philistine. Generally speaking, the river-beds were as dry as the path we trod, and this was the only stream but one that I saw between Jaffa and the Jordan. A large caravan was assembled on its banks, with all its picturesque variety of laden camels, mules with gay trappings, mountain cavaliers with turban and embroidered vests, veiled women on donkeys, half-naked Arabs with long spears, dwellers in cities with dark kaftan or furred pelisse. All, however various their nation, profession, or appearance, were eagerly quaffing the precious stream or waiting

under "the shadow of a high rock" for the caravan to proceed.

The hills became more and more precipitous as we approached Jerusalem; most of them were of a conical form, and terraced to their summit. Yet on these steep acclivities the strenuous labor of the Israelite had formerly grown corn, wine, and oil; and, on the terraces that remained uninjured the few present inhabitants still plant wheat and vineyards and olive-groves. There was no appearance of water, except the inference that might be drawn of wells within the few villages that hung on the mountain's side.

The pathway continued as rough as ever, while we wound through the rocky defiles leading to the upper plains; but it was much more frequented, and I had joined a large and various company for the sake of listening to their talk about the city that now absorbed every other interest. At each acclivity we surmounted we were told that the next would reveal to us the object of our destination; and at length, as we emerged upon a wide and sterile plain, the leading pilgrims sank upon their knees, the most contagious shout of enthusiasm I ever heard burst from each traveler, and every man of that large company—Arab, Italian, Greek, and Englishman—exclaimed, each in his own tongue, "El Khuds!" "Gerusalemma!" "Higiopolis!" "The Holy City!"

It was, indeed, Jerusalem, and had the Holy City risen before us in its palmiest days of magnificence and glory, it could not have created deeper emotion, or been gazed at more earnestly and with intenser interest. . . .

Apart from all associations, the first view of Jerusalem is a most striking one. A brilliant and uncheckered sunshine has something mournful in it when all that it shines upon is utterly desolate and drear. Not a tree or green spot is visible; no sign of life breaks the solemn silence; no smile of nature's gladness ever varies the stern scenery around. The flaming, monotonous sunhine above, and the pale, distorted, rocky wastes beneath realize but too faithfully the prophetic picture, "Thy sky shall be brass and thy land

shall be iron." To the right and left, as far as the eye can reach, vague undulations of colorless rocks extend to the horizon. A broken and desolate plain in front is bounded by a wavy, battlemented wall, over which towers frown, and minarets peer, and mosque domes swell, intermingled with church turrets and an indistinguishable mass of terraced roofs. High over the city, to the left, rises the Mount of Olives, and the distant hills of Moab, almost mingling with the sky, afford a background to the striking picture. . . .

I had always pictured to myself Jerusalem as standing upon lofty hills and visible from afar. It is, on the contrary, on the edge of the wide platform by which we approached from Jaffa, and is commanded by the Mount of Olives, the Hill of Scopas, and other eminences, from which it is divided by the deep and narrow ravines called the Valley of Jehoshaphat and the Vale of Hinnom. These ravines meet in the form of a Y, the lower part of which describes the precipitous glen through which the brook Kedron flows in winter to the Dead Sea.

The site of the city is in itself unique. Selected originally from the strength of its position only, it offers none of the features usually to be found surrounding the metropolis of a powerful people. No river nor any stream flows by it; no fertility surrounds it; no commerce seems able to approach its walls ; no thoroughfare of nations finds it in the way. It seems to stand apart from the world, exempt from its passions, its ambitions, and even its prosperity. Like the high-priest who once ministered in its temple, it stands solitary and removed from all secular influences, and receives only those who come to worship at its mysteries. All the other cities of the earth are frequented by votaries of gain, science, luxury, or glory; Zion offers only privations to the pilgrim's body, solemn reflections for his thoughts, awe for his soul; her palaces are ruins, her hostels are dreary convents, her chief boast and triumph is a Tomb. . . .

The greater part of the time I passed at Jerusalem I was as solitary as in the desert. In the cool of the evening I used to ride up the Mount of Olives, or explore the glens

and caverns, once the refuge places of the Prophets, now the resort of robbers and outlaws. If I had been reconnoitering for Titus I could not have made myself more familiar with every feature of the doomed city than solitude and curiosity conspired to make me during those frequent rambles. Toward noon I was driven by the heat to take shelter in my apartments, which I shall describe, as affording a specimen of the houses of Jerusalem. I passed only one night in the dreary hospice of the Terra Santa, and the next evening found myself, on my return from a distant ride, the tenant of Abou Habib, in the Via Dolorosa.

He was a portly old Christian, very like Lablache in the garb of Figaro, but that a long robe of brown silk enveloped his person, and a capacious turban his broad brow. He could speak but few words of Italian, and the gesticulations with which he endeavored to express some difficult emotion in Arabic were irresistibly ludicrous. He piqued himself on his cookery, and was continually inventing some new abomination of grease and rice to tempt my appetite. There was a hospitality about the old fellow, notwithstanding his reputed avaricious propensities, that prevented me from ever scrutinizing his bills. If he made the most of his guests in one respect, he also did it in every other.

My servant was quite superseded in the culinary department. As soon as I rose in the morning it was Abou Habib who presented my coffee; when I came in from riding, pipe and coffee were handed by Abou Habib; and in a few moments rissoles in vine-leaves, or pieces of pilan in cucumbers, with a broiled fowl and a flask of Vino d'Oro, were presented by Abou Habib. If I clapped my hands throughout the day, the same portly figure presented itself; if I fell asleep on the divan, I found him fanning away the flies; at dinner he was at once cook and butler; in the evening he was killing chickens while he whistled a tune, or plucking them as he chanted some unintelligible old song; he even climbed the housetop to offer my pipe, and at length actually took to grooming my horses.

The entrance to this house of hospitality was by a nar-

row flight of stone steps leading out of the Via Dolorosa; a door opened thence into a court-yard, where my horses were stabled in an inclosure and picketed to the wall by the fetlock; a corridor, in which there were doors leading to a kitchen on one side and sleeping-rooms on the other, connected this outer with an inner court, shaded by a few lemon and cypress-trees. In this were my apartments, consisting of a sleeping-room and a large wainscoted chamber, surrounded with a divan and diversified with a variety of shelves, presses, and cupboards. Opposite were the sleeping-apartments of my host, his buxom wife, and her blooming sister. These women seemed to lead a life of perfect idleness, for the indefatigable Abou Habib was all in all, and monopolized all the offices of the establishment, even to dressing, in more senses than one, a young son of his who was the plague of the household.

My host was civil and humble, even to servility; but the female members of his family appeared to be as free from constraint as they were from forwardness. During a short but severe illness they attended me with the greatest kindness, and afterward gave me lessons in Arabic, and folding turbans, and other Eastern acomplishments. . . . It was pleasant, when evening fell, as I lay on the divan and looked upon the clear, bright sky, against which the cypresses trembled in the night breeze, to hear the low, sweet, plaintive voices in which these Eastern women sang the songs of their historic land. Hebron was their native place, and they were Christians, though they had never heard of the Bible, but the name of the Koran was familiar to them.

Their dress in the house consisted of a close-fitting tunic, buttoned from beneath the bosom for some distance down, thence open to allow free motion to their limbs, that were clothed with very full, loose trowsers, tied at the ankle, and falling over the slippered foot. The bosom was generally open, or but partly inclosed by the crape garment within; a light turban or a handkerchief of Damascus silk covered the head, from which the rich hair flowed free, or was plaited

into two long braids. In the streets the Christian women wear the *yashmak*, or veil, across the face, as the Moslems do, but in the house it is entirely laid aside. The women of all religions pass much of their time on the housetops, peeping through the circular tiles that are built into a wall so as to admit the air yet conceal the inhabitants of each roof.

I rode forth to make a circuit of the city, "to walk round about her and mark well her battlements." Sadly has all changed since this proud challenge was spoken, yet the walls are still towering and imposing in their effect. They vary in height from twenty to sixty feet, according to the undulations of the ground, and are everywhere in good repair. The columns and architraves, as old at least as the Roman-conquered city, that are worked into these walls instead of ruder stones, bear eloquent testimony to the different nature of their predecessors. A bridle-path leads close to their base all round; the valleys of Hinnom and Jehoshaphat yawn suddenly beneath them on the west, south, and north, separating them from Mount Gihon, the Hill of Evil Counsel, and the Mount of Olives.

These hills are utterly barren, and lonely as fear can make them. Though within gunshot of the city, robberies are here committed with impunity, and few people venture to leave the walls without being well armed and attended. The deep gloom of the Valley of Hinnom; the sterility of all around; the silence and desolation so intense, yet so close to the city; the sort of memory with which I could trace each almost familiar spot, from the Tower of Hippicus to the Hill of Scopas, made this the most interesting excursion I ever undertook. Now we look down upon the Pool and Valley of Gihon from the summit of Mount Zion; now upon the Vale of Hinnom, with the Pool of Siloam, and Aceldama beyond the brook; now over Mount Moriah, with the Valley of Jehoshaphat beneath, and the village of Siloam on the opposite side, scattered along the banks where Kedron used to flow. Then, passing through the Turkish cemetery and over the brook Kedron, we come to the venerable

garden of Gethsemane, in which, say the legends, still stand the olive-trees that sheltered Christ.

This garden is only a small grove, occupying perhaps two acres of ground, but it is one of the best authenticated scenes of interest about Jerusalem. From it a steep and rocky path leads to the three summits of the Mount of Olives, on the loftiest of which stands the Church of the Ascension. An Armenian priest admitted me into the sacred enclosure, motioned to a little monk to lead about my horse, and led the way in silence to the roof of the church. From hence is the most interesting, if not the most striking, view in the world.

From such a summit might the great leader of the people have viewed the land, which was to be the reward of their desert wanderings. From it is laid bare every fiber of the great heart of Palestine. The atmosphere is like a crystal lens, and every object in the Holy City is as clear as if it lay within a few yards, instead of a mile's distance. Each battlement upon those war-worn walls, each wild flower that clusters over them; the dogs prowling about the waste places among the ruins and cactus and cypress; the turbaned citizen slowly moving in the streets; all these are recognizable almost as clearly as the prominent features of the city.

The eminence called Mount Moriah lies nearest to our view, just above the narrow Valley of Jehoshaphat. The city wall passes over the center of it, embracing a wide enclosure, studded with cypresses and cedars, in the center of which stands the magnificent Mosque of Omar. This is of a very light, fantastic architecture, bristling with points, and little spires and minarets, many of which have gilded crescents that flash and gleam in the sunshine; while the various groups of Moslems, seated on bright carpets, or slowly wandering among the groves, give life and animation to the scene.

The mosque occupies the site of the Temple, and is held holy by the Moslem as the place where Abraham offered Isaac to be a sacrifice. To the left of the mosque enclosure within the walls is a space covered with rubbish and jungles

of the prickly pear; then part of the Hill of Zion, and David's Tower. To the right of the enclosure is the Pool of Bethesda, beyond which St. Stephen's Gate affords entrance to the Via Dolorosa, a steep and winding street, along which Christ bore the Cross in his ascent to Calvary. To the right of the street, and toward the north, stands the hill of Acra, on which Salem, the most ancient part of the city, was built, they say, by Melchisedek. This hill is inclosed by the walls of the modern town; but the hill of Bezetha lies yet farther to the right, and was enclosed within the walls that the Romans stormed. Beyond Bezetha stands the Hill of Scopas, wherefrom Titus gazed upon Jerusalem the day before its destruction, and wept for the sake of the beautiful city. . . .

Beneath us is the Garden of Gethsemane, the Valley of Hinnom with its Tophet, and the Vale of Jehoshaphat with its brook Kedron, which meets the waters of Siloam at the Well of Job. The Tombs of the Kings of Nehemiah, of Absalom, and of the Judges, lie before us; the caves of the Prophets everywhere pierce the rocks, that have so often resounded to the war-cry of the Chaldean, the Roman, the Saracen, and the Crusader. Beyond the city spreads the Vale of Rephaim, with Bethlehem in the distance; every rock and hill and valley that is visible bears some name that has rung in history. And then the utter desolation that everywhere prevails—as if it was all over with that land and the "rocks had indeed fallen, and the hills indeed had covered" the mighty, the beautiful, and the brave, who once dwelt there in prosperity and peace. No flocks, no husbandmen, nor any living thing is there, except a group of timid travelers—turbaned figures, and veiled women, and a file of camels—winding along the precipitous pathway under the shadow of the palm-tree.

Descending from the Mount of Olives, I reëntered the city by St. Stephen's Gate, where Turkish soldiers constantly keep guard; turning to the left, I visited the Pool of Bethesda, and then wandered slowly over the Via Dolorosa, in which is pointed out each spot where the Saviour

fell under the burden of the Cross, as he bore it to Calvary along this steep and rugged way.

In after-days I impatiently traversed the squalid city, with a monk for my guide, in search of its various localities of traditionary sanctity; but I will not ask the reader to stoop to such a labor. My monkish cicerone pointed out to me where Dives lived, where Lazarus lay, where the cock crowed or roosted that warned Peter of his crime, and even where the blessed Virgin used to wash her Son's linen. It is difficult to speak of such things gravely, and yet I would not have one light feeling or expression intermingled with the solemn subjects of which this chapter attempts to treat. . . .

The character of the city within corresponds with that of the country without. Most of it is very solitary and silent; echo only answers to your horse's tread; and frequent waste places, among which the wild dog prowls, convey an indescribable impression of desolation. It is not those waste places alone that give such an air of loneliness to the city, but many of the streets themselves, dark, dull, and mournful-looking, seem as if the Templars' armed tread was the last to which they had resounded. The bazaars and places of business are confined to one small quarter of the city; everywhere else you generally find yourself alone. No one is even there to point out your way; and you come unexpectedly upon the Pool of Bethesda, or wander among the vaulted ruins of the Hospitallers' courts, without knowing it.

The remains of the ancient city that meet your eye are singularly few; here and there a column is let into the wall, or you find that the massive and uneven pavement is of costly marble; but, except the Pools of Hezekiah and Bethesda, the Tower of Hippicus, and some few other remains, preserved on account of their utility, there is little of art to connect the memory with the past.

The chief place of interest in Jerusalem is the Holy Sepulchre, whose site I believe to be as real as the panorama that the priests have gathered around it must needs be

false. You descend by a narrow lane and a flight of steps into a small enclosure, where a guard of Turkish soldiers is stationed to keep peace among the Christians. After paying tribute to this infidel police, you enter into a large circular hall, supported by a colonnade of eighteen pillars, and surrounded by a large dome, in the center of which is a pavilion containing the Holy Sepulchre. The whole of this church has been so frequently described that I shall only mention that within its walls are collected a panorama of all the events that took place at the crucifixion; the place where Christ was scourged; the hole in the rock where the Cross stood; the fissure where the rock was rent in twain; the place where the soldiers cast lots for the garments; the stone whereon the body was anointed; and, lastly, the grave wherein it was laid.

ASIA

The Great Ruins of Bashan

By J. L. PORTER

FROM the first moment of my arrival in Damascus I felt an intense desire to visit the ancient kingdom of Bashan.

The ancient cities, and even the villages, of Western Palestine have been almost annihilated; with the exception of Jerusalem, Hebron, and two or three others, not one stone has been left upon another. In some places we can scarcely discover the spot where a noted city stood, so complete has been the desolation. Even in Jerusalem itself only a very few vestiges of the ancient buildings remain; the Tower of David, portions of the wall of the Temple area, and one or two other fragments—just enough to form the subject of dispute among antiquaries.

The state of Bashan is totally different; it is literally crowded with towns and large villages, and, though the vast majority of them are deserted, they are not ruined. I have more than once entered a deserted city in the evening, taken possession of a comfortable house, and spent the night in peace. Many of the houses in the ancient cities of Bashan are as perfect as if finished only yesterday. The walls are sound, the roofs unbroken, the doors, and even the window-shutters, in their places. Let not my readers think that I am transcribing a passage from the "Arabian Nights." I am relating sober facts; I am simply telling what I have seen, and what I purpose more fully to describe.

"But how," you ask me, "can we account for the pres-

ervation of ordinary dwellings in a land of ruins? If one of our modern English cities were deserted for a millennium there would scarcely be a fragment of a wall standing." The reply is easy enough. The houses of Bashan are not ordinary houses. Their walls are from five to eight feet thick, built of large squared blocks of basalt; the roofs are formed of slabs of the same material, hewn like planks, and reaching from wall to wall; the very doors and window-shutters are of stone, hung upon pivots projecting above and below. Some of these ancient cities have from two to five hundred houses still perfect, but not a man to dwell in them.

On one occasion, from the battlements of the Castle of Salcah, I counted some thirty towns and villages, dotting the surface of the vast plain, many of them almost as perfect as when they were built, and yet for more than five centuries there has not been a single inhabitant in one of them.

On a bright and balmy morning in February we defiled from the East Gate of Damascus, rode for half an hour among the orchards that skirt the old city, and then, turning to the left, struck out, along a broad beaten path through the open fields in a south-easterly direction. The leader was a wild-looking figure. His dress was a red cotton tunic or shirt, fastened round the waist by a broad leathern girdle. Over it was a loose jacket of sheepskin, the wool inside. His feet and legs were bare. On his head was a flame-colored handkerchief, fastened above by a coronet of black camel's-hair, which left the ends and long fringe to flow over his shoulders. He was mounted on an active, shaggy pony, with a pad for a saddle and a hair halter for a bridle. Before him, across the back of his little steed, he carried a long rifle, his only weapon. Immediately behind him, on powerful Arab horses, were three men in Western costume; one of these was the writer. Next came an Arab, who acted as dragoman, or rather courier, and two servants on stout hacks brought up the rear.

On gaining the beaten track our guide struck into a sharp canter. The great city was soon left far behind, and on turning we could see its tall white minarets shooting up

from the somber foliage and thrown into bold relief by the dark background of Anti-Lebanon. The plain spread out on each side, smooth as a lake, covered with the delicate green of the young grain. Here and there were long belts and large clumps of dusky olives, from the midst of which rose the gray towers of a mosque or the white dome of a saint's tomb. On the south the plain was shut in by a ridge of bare, black hills, appropriately named Jebel-el-Aswad, "The Black Mountains"; while away on the west, in the distance, Hermon rose in all its majesty, a pyramid of spotless snow. From whatever point one sees it, there are few landscapes in the world which, for richness and soft, enchanting beauty, can be compared with the plain of Damascus.

After riding about seven miles, during which we passed straggling groups of men—some on foot, some on horses and donkeys, and some on camels, most of them dressed like our guide, and all hurrying on in the same direction as ourselves—we reached the eastern extremity of the Black Mountains, and found ourselves on the sides of a narrow green vale, through the center of which flows the river Pharpar. A bridge here spans the stream; and beyond it, in the rich meadows, the *Hauran* caravan was being marshaled.

Up to this point the road is safe, and may be traveled almost at any time; but on crossing the Awaj we enter the domains of the Bedouin, whose law is the sword, and whose right is might. Our farther progress was liable to be disputed at any moment. The attacks of the Bedouin, when made, are sudden and impetuous; and resistance, to be effectual, must be prompt and decided. During the winter season this eastern route is in general pretty secure, as the Arab tribes have their encampments far distant on the banks of the Euphrates, or in the interior of the desert; but the war between the Druses and the government, which had just been concluded, had drawn these daring marauders from their customary haunts, and they endured the rain and snow of the Syrian frontier in the hope of plunder.

All seemed fully aware of this, and appeared to feel, here as elsewhere, that the hand of the Ishmaelite is against every man. Consequently stragglers hurried up and fell into the ranks; bales and packages on mules and camels were rearranged and more carefully adjusted; muskets and pistols were examined and cartridges got into a state of readiness; armed men were placed in something like order along the sides of the file of animals; and a few horsemen were sent on in front, to scour the neighboring hills and the skirts of the great plain beyond, so as to prevent surprise. A number of Druses who here joined the caravan, and who were easily distinguished by their snow-white turbans and bold, manly bearing, appeared to take the chief direction in these warlike preparations, though, as the caravan was mainly made up of Christians, one of these, called Musa, was the nominal leader. It was a strange and exciting scene, and one would have thought that an attempt to reduce such a refractory and heterogeneous multitude of men and animals to anything like order would be absolutely useless. Some of the camels and donkeys, breaking loose, scattered their loads over the plain, and spread confusion all around them; others growled, kicked, and brayed; drivers shouted and gesticulated; men and boys ran through the crowd, asking for missing brothers and companions; horsemen galloped from group to group, entreating and threatening by turns. At length, however, the order was given to march. It passed along from front to rear, and the next moment every sound was hushed; the very beasts seemed to comprehend its meaning, for they fell quietly into their places, and the long files, now four and five abreast, began to move over the grassy plain with a stillness that was almost painful.

The sun went down, and the short twilight was made still shorter by heavy clouds which drifted across the face of the sky. A thick rain began to fall, which made the prospect of a night march or a bivouac equally unpleasant. Still I rode on through the darkness, striving to dispel gloomy forebodings by the stirring memory of Bashan's ancient

glory, and the thought that I was now treading its soil and on my way to the great cities founded and inhabited four thousand years ago by the giant Rephaim. Before the darkness set in, Musa had pointed out to me the towers of three or four of these cities rising above the rocky barrier of the Lejah. How I strained my eyes in vain to pierce the deepening gloom! Now I knew that some of them must be close at hand. The sharp ring of my horse's feet on pavement startled me. This was followed by painful stumbling over loose stones, and the twisting of his limbs among jagged rocks. The sky was black overhead, the ground black beneath; the rain was drifting in my face, so that nothing could be seen.

A halt was called; and it was with no little pleasure that I heard the order given for the caravan to rest till the moon rose. "Is there any spot," I asked of an Arab at my side, "where we could get shelter from the rain?" "There is a house ready for you," he answered. "A house! Is there a house here?" "Hundreds of them. This is the town of Burâk."

We were conducted up a rugged winding path, which seemed, so far as we could make out in the dark and by the motion of our horses, to be something like a ruinous staircase. At length the dark outline of high walls began to appear against the sky, and presently we entered a paved street. Here we were told to dismount and give our horses to the servants. An Arab struck a light, and, inviting us to follow, passed through a low, gloomy door into a spacious chamber.

I looked with no little interest round the apartment of which we had taken such unceremonious possession; but the light was so dim, and the walls, roof, and floor so black, that I could make out nothing satisfactorily. Getting a torch from one of the servants, I lighted it and proceeded to examine the mysterious mansion; for, though drenched with rain and wearied with a twelve hours' ride, I could not rest. I felt an excitement such as I never before had experienced. I could scarcely believe in the reality of what I

saw and what I heard from my guides in reply to eager questions.

The house seemed to have undergone little change from the time its old master had left it; and yet the thick nitrous crust on its floor showed that it had been deserted for long ages. The walls were perfect, nearly five feet thick, built of large blocks of hewn stones, without lime or cement of any kind. The roof was formed of large slabs of the same black basalt, lying as regularly, and jointed as closely, as if the workmen had only just completed them. They measured twelve feet in length, eighteen inches in breadth, and six inches in thickness. The ends rested on a plain stone cornice, projecting about a foot from each side-wall. The chamber was twenty feet long, twelve wide, and ten high. The outer door was a slab of stone, four and a half feet high, four wide, and eight inches thick. It hung on pivots formed of projecting parts of the slab, working in sockets in the lintel and threshold; and, though so massive, I was able to open and shut it with ease.

At one end of the room was a small window with a stone shutter. An inner door, also of stone, but of finer workmanship, and not quite so heavy as the other, admitted to a chamber of the same size and appearance. From it a much larger door communicated with a third chamber, to which there was a descent by a flight of stone steps. This was a spacious hall, equal in width to the two rooms, and about twenty-five feet long by twenty high. A semicircular arch was thrown across it, supporting the stone roof; and a gate so large that camels could pass in and out opened on the street. The gate was of stone, and it appeared to have been open for ages. Here our horses were comfortably installed.

Such were the internal arrangements of this strange old mansion. It had only one story; and its simple, massive style of architecture gave evidence of a very remote antiquity. On a large stone which formed the lintel of the gateway there was a Greek inscription; but it was so high up, and my light so faint, that I was unable to decipher it, though I could see that the letters were of the oldest type. It

is probably the same which was copied by Burckhardt, and which bears a date apparently equivalent to the year B.C. 306.

Owing to the darkness of the night and the shortness of our stay, I was unable to ascertain from personal observation either the extent of Burâk or the general character of its buildings; but the men who gathered around me when I returned to my chamber had often visited it. They said the houses were all like the one we occupied, only some smaller, and a few larger, and that there were no great buildings. Burâk stands on the northeast corner of the Lejah, and was thus one of the frontier towns of ancient Argob. It is built upon rocks, and encompassed by rocks so wild and rugged as to render it a natural fortress.

After a few hours' rest the order for march was again given. We found our horses at the door, and mounting at once, we followed Musa. The rain had ceased, the sky was clear, and the moon shone brightly, half revealing the savage features of the environs of Burâk. I can never forget that scene. Huge masses of shapeless rocks rose up here and there, among and around the houses, to the height of fifteen and twenty feet, their summits jagged and their sides all shattered. Between them were pits and yawning fissures, as many feet in depth; while the flat surfaces of naked rock were thickly strewn with huge bowlders of basalt. The narrow, tortuous road by which Musa led us out was in places carried over chasms, and in places cut through cliffs. An ancient aqueduct ran alongside of it, which in former days conveyed a supply of water from a neighboring winter stream to the tanks and reservoirs from which the town gets its present name, Burâk, "the tanks." . . .

These aqueducts appear to have been constructed as follows: A shaft was sunk to the depth of ten to twenty feet at a spot where it was supposed water might be found; then a tunnel was excavated on the level of the bottom of the shaft, and in the direction of the town to be supplied. At the distance of about one hundred yards another shaft was sunk, connecting the tunnel with the surface; and so

the work was carried on until it was brought close to the city, where a great reservoir was made. Some of these aqueducts are nearly twenty miles in length; and even if no living spring should exist along their whole course, they soon collect in the rainy season sufficient surface water to supply the largest reservoirs. Springs are rare in Bashan. It is a thirsty land; but cisterns of enormous dimensions—some open, others covered—are seen in every city and village. . . .

Scrambling through, or rather over, a ruinous gateway, we entered the city of Bathanyeh. A wide street lay before us, the pavement perfect, the houses on each side standing, streets and lanes branching off to the right and left. There was something inexpressibly mournful in riding along that silent street, and looking in through half-open doors to one after another of those desolate houses, with the rank grass and weeds in their courts, and the brambles growing in festoons over the doorways, and branches of trees shooting through the gaping rents in the old walls. The ring of our horses' feet on the pavement awakened the echoes of the city and startled many a strange tenant. Owls flapped their wings around the gray towers; daws shrieked as they flew away from the house-tops; foxes ran in and out among the shattered dwellings, and two jackals rushed from an open door and scampered off along the street before us. . . .

One of the houses in which I rested for a time might almost be termed a palace. A spacious gateway, with massive folding doors of stone, opened from the street into a large court. On the left was a square tower some forty feet in height. Round the court, and opening into it, were the apartments, all in perfect preservation; and yet the place does not seem to have been inhabited for centuries. Greek inscriptions on the principal buildings prove that they existed at the commencement of our era; and in the whole town I did not see a solitary trace of Mohammedan occupation, so that it has probably been deserted for at least a thousand years.

Salcah is one of the most remarkable cities in Palestine.

It has been long deserted; and yet, as nearly as I could estimate, five hundred of its houses are still standing, and from three to four hundred families might settle in it at any moment without laying a stone or expending an hour's labor on repairs. The circumference of the town and castle together is about three miles. Besides the castle, a number of square towers, like the belfries of churches, and a few mosques appear to be the only public buildings. . . .

The castle occupies the summit of a steep conical hill, which rises to the height of some three hundred feet, and is the southern point of the mountain range of Bashan. Round the base of the hill is a deep moat, and another still deeper encircles the walls of the fortress. The building is a patchwork of various periods and nations. The foundations are Jewish, if not earlier; Roman rustic masonry appears about them; and over all is lighter Saracenic work, with beautifully interlaced inscriptions. The exterior walls are not much defaced, but the interior is one confused mass of ruins.

The view from the top is wide and wonderfully interesting. It embraces the whole southern slope of the mountains, which, though rocky, are covered from bottom to top with artificial terraces and fields divided by stone fences. . . . Wherever I turned my eyes, towns and villages were seen. . . . On the section of the plain between south and east I counted fourteen towns, all of them, so far as I could see with my telescope, habitable like Salcah, but entirely deserted. From this one spot I saw upward of thirty deserted towns. . . . Not only is the country—plain and hillside alike—checkered with fenced fields, but groves of fig-trees are here and there seen, and terraced vineyards still clothe the sides of some of the hills. These are neglected and wild, but not fruitless. Mahmood tells us that they produce great quantities of figs and grapes, which are rifled year after year by the Bedouins in their periodical raids. Nowhere on earth is there such a melancholy example of tyranny, rapacity, and misrule as here. Fields, pastures, vineyards, houses, villages, cities—all alike deserted and waste. Even the few inhabitants that

have hidden themselves among the rocky fastnesses and mountain defiles drag out a miserable existence, oppressed by robbers of the desert on the one hand and robbers of the government on the other. . . .

I could not but remark, while wandering through the streets and lanes of Kureiyeh—the biblical Kerioth—that the private houses bear the marks of the most remote antiquity. The few towers and temples, which inscriptions show to have been erected in the first centuries of the Christian era, are modern in comparison with the colossal walls and massive stone doors of the private houses. The simplicity of their style, their low roofs, the ponderous blocks of roughly hewn stone with which they are built, the great thickness of the walls, and the heavy slabs which form the ceilings—all point to a period far earlier than the Roman age, and probably even antecedent to the conquest of the country by the Israelites. Moses makes special mention of the strong cities of Bashan, and speaks of their high walls and gates. He tells us, too, in the same connection, that Bashan was called "the land of the giants" (or Rephaim); leaving us to conclude that the cities were built by giants.

Now, the houses of Kerioth and other towns of Bashan appear to be just such dwellings as a race of giants would build. The walls, the roofs, but especially the ponderous gates, doors, and bars, are in every way characteristic of a period when architecture was in its infancy, when giants were masons, and when strength and security were the grand requisites. I measured a door in Kerioth; it was nine feet high, four and a half feet wide, and ten inches thick—one solid slab of stone. I saw the folding-doors of another town in the mountains still larger and heavier. Time produces little effect on such buildings as these. The heavy stone slabs of the roofs resting on the massive walls make the structure as firm as if built of solid masonry; and the black basalt used is almost as hard as iron.

These houses are the only specimens in the world of the ordinary private dwellings of remote antiquity. The monuments designed by the genius and reared by the wealth of

imperial Rome are fast moldering to ruin in this land; temples, palaces, tombs, fortresses, are all shattered, or prostrate in the dust; but the simple, massive houses of the Rephaim are in many cases as perfect as if completed only yesterday.

ASIA

Ascent of Mount Ararat

By JAMES BRYCE

ABOUT one A.M. we got off, thirteen in all, and made straight across the grassy hollows for the ridges which trend up toward the great cone, running parallel in a west-northwesterly direction, and enclosing between them several long, narrow depressions, hardly deep enough to be called valleys. The Kurds led the way, and at first we made pretty good progress. The Cossacks seemed fair walkers, though less stalwart than the Kurds; the pace generally was better than that with which Swiss guides start. However, we were soon cruelly undeceived. In twenty-five minutes there came a steep bit, and at the top of it they flung themselves down on the grass to rest. So did we all. Less than half a mile farther, down they dropped again, and this time we were obliged to give the signal for resuming the march. In another quarter of an hour they were down once more, and so it continued for the rest of the way. Every ten minutes' walking—it was seldom steep enough to be called actual climbing—was followed by seven or eight minutes of sitting still, smoking and chattering. How they did chatter! It was to no purpose that we continued to move on when they sat down, or that we rose to go before they had sufficiently rested. They looked at one another, so far as I could make out by the faint light, and occasionally they laughed; but they would not and did not stir till

such time as pleased themselves. We were helpless. Impossible to go on alone; impossible also to explain to them the reason why every moment was precious, for the man who had acted as interpreter had been obliged to stay behind at Sardarbulakh, and we were absolutely without means of communication with our companions. One could not even be angry, had there been any use in that, for they were perfectly good-humored. It was all very well to beckon them, or pull them by the elbow, or clap them on the back; they thought this was only our fun, and sat still and chattered all the same. When it grew light enough to see the hands of a watch, and mark how the hours advanced while the party did not, we began for a second time to despair of success.

About three A.M. there suddenly sprang up from behind the Median mountains the morning-star, shedding a light such as no star ever gave in these northern climes of ours—a light that almost outshone the moon. An hour later it began to pale in the first faint flush of yellowish light that spread over the eastern heaven; and first the rocky masses above us, then Little Ararat, throwing behind him a gigantic shadow, then the long lines of mountains beyond the Araxes, became revealed, while the wide Araxes plain still lay dim and shadowy below. One by one the stars died out as the yellow turned to a deeper glow that shot forth in long streamers, the rosy fingers of the dawn, from the horizon to the zenith. Cold and ghostly lay the snows on the mighty cone; till at last there came upon their topmost slope, 6000 feet above us, a sudden blush of pink. Swiftly it floated down the eastern face, and touched and kindled the rocks just above us. Then the sun flamed out, and in a moment the Araxes valley and all the hollows of the savage ridges we were crossing were flooded with overpowering light.

It was nearly six o'clock, and progress became easier now that we could see our way distinctly. The Cossacks seemed to grow lazier, halting as often as before and walking less briskly; in fact, they did not relish the exceeding

roughness of the jagged lava ridges along whose tops or sides we toiled. I could willingly have lingered here myself; for in the hollows, wherever a little soil appeared, some interesting plants were growing, whose similarity to and difference from the Alpine species of Western Europe alike excited one's curiosity. Time allowed me to secure only a few; I trusted to get more on the way back, but this turned out to be impossible. As we scrambled along a ridge above a long, narrow, winding glen filled with loose blocks, one of the Kurds suddenly swooped down like a vulture from the height on a spot at the bottom, and began peering and grubbing among the stones. In a minute or two he cried out, and the rest followed; he had found a spring, and by scraping in the gravel had made a tiny basin out of which we could manage to drink a little. Here was a fresh cause of delay; everybody was thirsty, and everybody must drink; not only the water which, as we afterward saw, trickled down hither under the stones from a snow-bed seven hundred feet higher, but the water mixed with some whisky from a flask my friend carried, which even in this highly diluted state the Cossacks took to heartily. When at last we got them up and away again, they began to waddle and straggle; after a while two or three sat down, and plainly gave us to see they would go no farther. By the time we had reached a little snow-bed whence the now strong sun was drawing a stream of water, and halted on the rocks beside it for breakfast, there were only two Cossacks and the four Kurds left with us, the rest having scattered themselves about somewhere lower down. We had no idea what instructions they had received, nor whether, indeed, they had been told anything except to bring us as far as they could, to see that the Kurds brought the baggage, and to fetch us back again, which last was essential for Jaafar's peace of mind. We concluded, therefore, that if left to themselves they would probably wait our return; and the day was running on so fast that it was clear there was no more time to be lost in trying to drag them along with us.

Accordingly, I resolved to take what I wanted in the way of food, and start at my own pace. My friend, who carried more weight, and had felt the want of training on our way up, decided to come no farther, but wait about here, and look out for me toward nightfall. We noted the landmarks carefully—the little snow-bed, the head of the glen covered with reddish masses of stone and gravel; and high above it, standing out of the face of the great cone of Ararat, a bold peak or rather projecting tooth of black rock, which our Cossacks called the Monastery, and which, I suppose, from the same fancied resemblance to a building, is said to be called in Tatar Tach Kilissa, "the church rock." It is doubtless an old cone of eruption, about 13,000 feet in height, and is really the upper end of the long ridge we had been following, which may perhaps represent a lava flow from it, or the edge of a fissure which at this point found a vent. . . .

It was an odd position to be in: guides of two different races, unable to communicate either with us or with one another; guides who could not lead and would not follow; guides one-half of whom were supposed to be there to save us from being robbed and murdered by the other half, but all of whom, I am bound to say, looked for the moment equally simple and friendly, the swarthy Iranian as well as the blue-eyed Slav.

At eight o'clock I buckled on my canvas gaiters, thrust some crusts of bread, a lemon, a small flask of cold tea, four hard-boiled eggs, and a few meat lozenges into my pocket, bade good-by to my friend, and set off. Rather to our surprise, the two Cossacks and one of the Kurds came with me, whether persuaded by a pantomime of encouraging signs, or simply curious to see what would happen. The ice-ax had hugely amused the Cossacks all through. Climbing the ridge to the left, and keeping along its top for a little way, I then struck across the semicircular head of a wide glen, in the middle of which, a little lower, lay a snow-bed over a long steep slope of loose broken stones and sand. This slope, a sort of talus or "screen," as they say in the

Lake country, was excessively fatiguing from the want of firm foothold; and when I reached the other side, I was already so tired and breathless, having been on foot since midnight, that it seemed almost useless to persevere farther. However, on the other side I got upon solid rock, where the walking was better, and was soon environed by a multitude of rills bubbling down over the stones from the stone-slopes above. The summit of Little Ararat, which had for the last two hours provokingly kept at the same apparent height above me, began to sink, and before ten o'clock I could look down upon its small flat top, studded with lumps of rock, but bearing no trace of a crater. Mounting steadily along the same ridge, I saw at a height of over 13,000 feet, lying on the loose blocks, a piece of wood about four feet long and five inches thick, evidently cut by some tool, and so far above the limit of trees that it could by no possibility be a natural fragment of one. Darting on it with a glee that astonished the Cossack and the Kurd I held it up to them, and repeated several times the word "Noah." The Cossack grinned; but he was such a cheery, genial fellow that I think he would have grinned whatever I had said, and I cannot be sure that he took my meaning, and recognized the wood as a fragment of the true Ark. Whether it was really gopher wood, of which material the Ark was built, I will not undertake to say, but am willing to submit to the inspection of the curious the bit which I cut off with my ice-ax and brought away. Anyhow, it will be hard to prove that it is not gopher wood. And if there be any remains of the Ark on Ararat at all—a point as to which the natives are perfectly clear—here rather than the top is the place where one might expect to find them, since in the course of ages they would get carried down by the onward movement of the snow-beds along the declivities. This wood, therefore, suits all the requirements of the case. In fact, the argument is for the case of a relic exceptionally strong; the Crusaders who found the Holy Lance at Antioch, the archbishop who recognized the Holy Coat at Trèves, not to speak of many others, proceeded

upon slighter evidence. I am, however, bound to admit that another explanation of the presence of this piece of timber on the rocks of this vast height did occur to me. But as no man is bound to discredit his own relic, and such is certainly not the practice of the Armenian Church, I will not disturb my readers' minds or yield to the rationalizing tendencies of the age by suggesting it.

Fearing that the ridge by which we were mounting would become too precipitous higher up, I turned off to the left, and crossed a long, narrow snow-slope that descended between this ridge and another line of rocks more to the west. It was firm, and just steep enough to make steps cut in the snow comfortable, though not necessary; so the ice-ax was brought into use. The Cossack who accompanied me—there was but one now, for the other Cossack had gone away to the right some time before, and was quite lost to view—had brought my friend's alpenstock, and was developing a considerable capacity for wielding it. He followed nimbly across; but the Kurd stopped on the edge of the snow, and stood peering and hesitating, like one who shivers on the plank at a bathing-place, nor could the jeering cries of the Cossack induce him to venture on the treacherous surface. Meanwhile, we who had crossed were examining the broken cliff which rose above us. It looked not exactly dangerous, but a little troublesome, as if it might want some care to get over or through. So after a short rest I stood up, touched my Cossack's arm, and pointed upward. He reconnoitered the cliff with his eye, and shook his head. Then, with various gestures of hopefulness, I clapped him on the back, and made as if to pull him along. He looked at the rocks again and pointed to them, stroked his knees, turned up and pointed to the soles of his boots, which certainly were suffering from the lava, and once more solemnly shook his head. This was conclusive; so I conveyed to him by pantomime that he had better go back to the bivouac where my friend was, rather than remain here alone, and that I hoped to meet him there in the evening; took an affectionate farewell, and turned toward

the rocks. There was evidently nothing for it but to go on alone. It was half-past ten o'clock, and the height about 13,600 feet, Little Ararat now lying nearly one thousand feet below the eye. . . .

Not knowing how far the ridge I was following might continue passable, I was obliged to stop frequently to survey the rocks above, and erect little piles of stone to mark the way. This not only consumed time, but so completely absorbed the attention that for hours together I scarcely noticed the marvelous landscape spread out beneath, and felt the solemn grandeur of the scenery far less than many times before on less striking mountains. Solitude at great heights, or among majestic rocks or forests, commonly stirs in us all deep veins of feeling, joyous or saddening, or more often of joy and sadness mingled. Here the strain on the observing senses seemed too great for fancy or emotion to have any scope. When the mind is preoccupied by the task of the moment, imagination is checked. This was a race against time, in which I could only scan the cliffs for a route, refer constantly to the watch, husband my strength by morsels of food taken at frequent intervals, and endeavor to conceive how a particular block or bit of slope which it would be necessary to recognize would look when seen the other way in descending. . . .

All the way up this rock-slope, which proved so fatiguing that for the fourth time I had almost given up hope, I kept my eye fixed on its upper end to see what signs there were of crags or snow-fields above. But the mist lay steadily at the point where the snow seemed to begin, and it was impossible to say what might be hidden behind that soft white curtain. As little could I conjecture the height I had reached by looking around, as one so often does on mountain ascents, upon other summits; for by this time I was thousands of feet above Little Ararat, the next highest peak visible, and could scarcely guess how many thousands. From this tremendous height it looked more like a broken obelisk than an independent summit 12,800 feet in height. Clouds covered the farther side of the great snow basin, and were seething like

waves about the savage pinnacles, the towers of the Jinn palace, which guard its lower margin, and past which my upward path had lain. With mists to the left and above, and a range of black precipices cutting off all view to the right, there came a vehement sense of isolation and solitude, and I began to understand better the awe with which the mountain silence inspires the Kurdish shepherds. Overhead the sky had turned from dark blue to an intense bright green, a color whose strangeness seemed to add to the weird terror of the scene. It wanted barely an hour to the time when I had resolved to turn back; and as I struggled up the crumbling rocks, trying now to right and now to left, where the foothold looked a little firmer, I began to doubt whether there was strength enough left to carry me an hour higher. At length the rock-slope came suddenly to an end, and I stepped out upon the almost level snow at the top of it, coming at the same time into the clouds, which naturally clung to the colder surfaces. A violent west wind was blowing, and the temperature must have been pretty low, for a big icicle at once enveloped the lower half of my face, and did not melt till I got to the bottom of the cone four hours afterward. Unluckily I was very thinly clad, the stout tweed coat reserved for such occasions having been stolen on a Russian railway. The only expedient to be tried against the piercing cold was to tighten in my loose light coat by winding around the waist a Spanish *faja*, or scarf, which I had brought up to use in case of need as a neck wrapper. Its bright purple looked odd enough in such surroundings, but as there was nobody there to notice, appearances did not much matter. In the mist, which was now thick, the eye could pierce only some thirty yards ahead; so I walked on over the snow five or six minutes, following the rise of its surface, which was gentle, and fancying there might still be a good long way to go. To mark the backward track I trailed the point of the ice-ax along behind me in the soft snow, for there was no longer any landmark; all was cloud on every side. Suddenly to my astonishment the ground began to fall away to the north;

I stopped; a puff of wind drove off the mists on one side, the opposite side to that by which I had come, and showed the Araxes plain at an abysmal depth below. It was the top of Ararat.

ASIA

The Lost City of Petra

By JOHN LEWIS BURCKHARDT

SOUTH of the Dead Sea, at about sixteen hours' distance from the extremity of that body of water, is the Valley of Araba, running in almost a straight line, declining to the west, as far as Akaba, at the extremity of the eastern branch of the Red Sea. The existence of this valley appears to have been unknown to ancient as well as to modern geographers, although it is a very remarkable feature in the geography of Syria and Arabia Petræa, and is still more interesting for its productions. In this valley of the Jordan the manna is still found; it drops from the sprigs of several trees, but principally from the Gharrab. It is collected by the Arabs, who make cakes of it and who eat it with butter; they call it Assal Beyrook, or the honey of Beyrook. Indigo, gum-arabic, and the silk-tree called Asheyr, whose fruit encloses a white, silky substance from which the Arabs twist their matches, grow in this valley.

I was particularly desirous of visiting Wady Moussa, of the antiquities of which I had heard the country people speak in terms of great admiration, and from thence I had hoped to cross the desert in a straight line to Cairo; but my guide was afraid of the hazards of a journey through the desert, and insisted on my taking the road to Akaba, the ancient Ezion-geber, at the extremity of the eastern branch of the Red Sea where, he said, we might join some caravan and continue our route toward Egypt. I wished, on the

contrary, to avoid Akaba as I knew that the Pasha of Egypt kept there a numerous garrison to watch the movements of the Wahabees and of his rival the Pasha of Damascus. A person, therefore, like myself, coming from the latter place, without any papers to show who I was or why I had taken that circuitous route, would certainly have roused the suspicions of the officer commanding at Akaba, and the consequences might have been dangerous to me among the savage soldiery of that garrison. The road from Shobak to Akaba lies to the east of Wady Moussa, and to have quitted it out of mere curiosity to see the wady would have looked suspicious in the eyes of the Arabs. I therefore pretended to have made a vow to slaughter a goat in honor of Haroun (Aaron), whose tomb I knew was situated at the extremity of the valley, and by this stratagem I thought that I should have the means of seeing the valley on my way to the tomb. To this my guide had nothing to oppose; the dread of drawing down upon himself by resistance the wrath of Haroun completely silenced him.

I hired a guide to Eldjy to conduct me to Haroun's tomb, and paid him with a pair of old horseshoes. He carried the goat, and gave me a skin of water to carry, as he knew there was no water in the wady below. In following the rivulet of Eldjy westward, the valley soon narrows again, and it is here that the antiquities of Wady Moussa (Petra) begin. Of these I regret that I am not able to give a very complete account; but I knew well the character of the people around me. I was without protection in the midst of a desert where no traveler had ever before been seen, and a close examination of these works of the infidels, as they are called, would have excited suspicions that I was a magician in search of treasures. I should at least have been detained and prevented from prosecuting my journey to Egypt, and in all probability should have been stripped of the little money which I possessed, and, what was of infinitely more value to me, of my journal. Future travelers may visit the spot under the protection of an armed force; the inhabitants will become more accustomed to the researches of strangers,

and the antiquities of Wady Moussa will then be found to rank among the most curious works of ancient art. The approach to Wady Moussa is a ravine, in places only twelve feet wide, and with rocky walls one hundred feet high. Along this ravine are the famous ruin of Petra, the Khusna, or "treasury of Pharaoh," and a theater, both cut in the solid rock. The floor of the valley within, about two miles wide, is strewn with ruins.

Near the west end of Wady Moussa are the remains of a stately edifice, of which part of the wall is still standing; the inhabitants call it Kasr Bint Faraoun, or the palace of Pharaoh's daughter. In my way I had entered several sepulchers, to the surprise of my guide, but when he saw me turn out of the foot-path towards the Kasr, he exclaimed, "I see now clearly that you are an infidel, who has some particular business among the ruins of the city of your forefathers; but depend upon it, that we shall not suffer you to take out a single para of all the treasures hidden therein, for they are in our territory and belong to us."

I replied that it was mere curiosity that prompted me to look at the ancient works, and that I had no other view in coming there than to sacrifice to Haroun; but he was not easily persuaded, and I did not think it prudent to irritate him by too close an inspection of the palace, as it might have led him to declare, on our return, his belief that I had found treasures, which might have led to a search of my person and to the detection of my journal, which would most certainly have been taken from me as a book of magic. It was of no avail to tell them to follow me, and see whether I searched for money. Their reply was, "Of course you will not dare to take it out before us, but we know that if you are a skillful magician you will order it to follow you through the air to whatever place you please."

The sun had already set when we arrived on the plain. It was too late to reach the tomb, and I was excessively fatigued; I therefore hastened to kill the goat in sight of the tomb, at a spot where I found a number of heaps of stones, placed there in token of as many sacrifices in honor of that

saint. While I was in the act of slaying the animal my guide exclaimed aloud, "O Haroun, look upon us! it is for you we slaughter this victim! O Haroun, be content with our good intentions, for it is but a lean goat! O Haroun, smooth our paths; and praise be to the Lord of all creatures!" This he repeated several times, after which he covered the blood that had fallen to the ground with a heap of stones; we then dressed the best part of the flesh for our supper as expeditiously as possible, for the guide was afraid of the fire being seen, and of its attracting thither some robbers.

On our return we crossed the valley of Araba, ascended on the other side of it the barren mountain of Beyane, and entered the desert called El Tih, which is the most barren and horrid tract of country I have ever seen; black flints cover the chalky or sandy ground, which in most places is without any vegetation. The tree which produces the gum-arabic grows in some spots, and the tamarisk is met with here and there; but the scarcity of water forbids much extent of vegetation, and the hungry camels are obliged to go in the evening for whole hours out of the road in order to find some withered shrubs upon which to feed. During ten days' forced marches we passed only four springs or wells, of which one only, at about eight hours east of Suez, was of sweet water. The others were brackish or sulphurous. We passed at a short distance to the north of Suez, and arrived at Cairo by the pilgrim road. . . .

I left Hadda disguised as a Mussulman pilgrim to Mecca. My guide, who knew nothing further respecting me than that I had business with the pasha at Tayf, that I performed all the outward observances of a Moslem pilgrim, and that I had been liberal to him before our departure, asked me the reason of his having been ordered to take me by the northern road. I replied that it was probably thought shorter than the other. "That is a mistake," he replied; "the Mecca road is quite as short, and much safer; and if you have no objection we will proceed by that." This was just what I wished, though I had taken care not

to betray any anxiety on the subject; and we accordingly followed the great road, in company with the other travelers.

Res el Kora is the most beautiful spot in the Hedjah, and more picturesque and delightful than any spot I had seen since my departure from Lebanon, in Syria. The top of Jebel Kora is flat, but large masses of granite lie scattered over it, the surface of which, like that of the granite rocks near the second cataract of the Nile, is blackened by the sun. Several small rivulets descend from this peak and irrigate the plain, which is covered with verdant fields and large shady trees on the side of the granite rocks. To those who have known only the dreary and scorching sands of the lower country of the Hedjah, the scene is as surprising as the keen air which blows here is refreshing. Many of the fruit-trees of Europe are found here: figs, apricots, peaches, apples, the Egyptian sycamore, almonds, pomegranates, but particularly vines, the produce of which is of the best quality. After passing through this delightful district for about half an hour, just as the sun was rising, when every leaf and blade of grass diffused a fragrance as delightful to the smell as was the landscape to the eye, I halted near the largest of the rivulets, which, although not more than two paces across, nourishes upon its banks a green alpine turf such as the mighty Nile, with all its luxuriance, can never produce in Egypt. . . .

At the northeast corner of the Kaaba, near the door, is the famous Black Stone; it forms a part of the sharp angle of the building at four or five feet above the ground. It is an irregular oval of about seven inches in diameter, with an undulating surface, composed of about a dozen smaller stones of different sizes and shapes, well joined together with a small quantity of cement, and perfectly smoothed. It looks as if the whole had been broken into many pieces by a violent blow, and then united again. It is very difficult to determine accurately the quality of this stone, which has been worn to its present surface by the millions of touches and kisses it has received. It appeared

to me like a lava, containing several small extraneous particles of a whitish and of a yellowish substance. Its color is now a deep reddish-brown, approaching to black. It is surrounded on all sides by a border, composed of a substance which I took to be a close cement of pitch and gravel, of a similar, but not quite the same, brownish color. This border serves to support its detached pieces. It is of two or three inches in breadth, and rises a little above the surface of the stone. Both the border and the stone itself are encircled by a silver band, broader below than above and on the two sides, with a considerable swelling below, as if a part of the stone were hidden under it. The lower part of the border is studded with silver nails.

In the procession to Mount Ararat every pilgrim issued from his tent to walk over the plains and take a view of the busy crowds assembled there. Long streets of tents, fitted up as bazaars, furnished all kinds of provisions. The Syrian and Egyptian cavalry were exercised by their chiefs early in the morning, while thousands of camels were seen feeding on the dry shrubs of the plain all around the camp. . . .

The Syrian Hadj was encamped on the south and southwest side of the mountain, an isolated mass of granite about two hundred feet high, the Egyptian on the southeast. Around the house of the Sherif, Yahya himself was encamped with his Bedouin troops, and in its neighborhood were all the Hedjez people. Mohammed Ali, and Soleyman, Pasha of Damascus, as well as several of their officers, had very handsome tents; but the most magnificent of all was that of the wife of Mohammed Ali, the mother of Foossoon Pasha and Ibraham Pasha, who had lately arrived from Cairo for the Hadj with a truly royal equipage, five hundred camels being necessary to transport her baggage from Jidda to Mecca. Her tent was in fact an encampment, consisting of a dozen tents of different sizes inhabited by her women; the whole inclosed by a wall of linen cloth eight hundred paces in circuit, the single entrance to which was guarded by eunuchs in splendid dresses. Around this inclosure were pitched the tents of the men who formed her numerous suite.

The beautiful embroidery on the exterior of this linen palace, with the varied colors displayed in every part of it, constituted an object which reminded me of some descriptions in the familiar Arabian tales of the "Thousand and One Nights."

When the preacher began his sermon, the two pashas, with their whole cavalry drawn up in two squadrons behind them, took their post in the rear of the deep line of camels of the hadjis, to which those of the people of the Hedjaz were also joined; and here they waited in solemn and respectful silence till the conclusion of the sermon. Further removed from the preacher was the Sherif Yahya, with his small body of soldiers, distinguished by several green standards carried before him. The two mahmals, or holy camels, which carry on their backs the high structure that serves as the banner of their respective caravans, made way with difficulty through the ranks of camels that encircled the southern and eastern sides of the hill opposite to the preacher, and took their station, surrounded by their guards, directly under the platform in front of him. The preacher, or Khatyb, who is usually the Kadid of Mecca, was mounted upon a finely-caparisoned camel, which had been led up to the steps; it being traditionally said that Mohammed was always seated when he addressed his followers, a practice in which he was imitated by all the caliphs who came to the Hadj, and who from thence addressed their subjects in person. The Turkish gentleman of Constantinople, however, unused to camel-riding, could not keep his seat so well as the hardy Bedouin prophet, and the camel becoming unruly, he was soon obliged to alight from it. He read his sermon from a book in Arabic which he held in his hands. At intervals of every four or five minutes he paused and stretched forth his arms to implore blessings from above, while the assembled multitudes around and before him waved the skirts of their ihrams over their heads and rent the air with shouts of *Lebeyk, Allah, huma, Lebeyk!* "Here we are at thy bidding, O God!" During the wavings of the ihrams, the skirts of the mountain, thickly crowded as it was by the

people in their white garments, had the appearance of a cataract of water, while the green umbrellas with which several thousand hadjis sitting on their camels below were provided, bore some resemblance to a verdant plain.

ASIA

The Ride to Khiva

By FREDERICK BURNABY

HAVING once resolved to go to Central Asia, the next question was how to execute my intention; and, on returning to England from Africa, I eagerly read every book that could be found and which seemed likely to give any information about the country which I proposed to visit. Vambéry's "Travels," Abbott's "From Herat to Khiva," and MacGahan's "Campaigning on the Oxus," were each in turn studied, and, judging by the difficulties that the gallant correspondent of the "New York Herald" had to overcome before he carried his project of reaching Khiva into execution, I felt convinced that the task I had laid out for myself was anything but an easy one.

The time of year in which I should have to attempt the journey was another obstacle to the undertaking, for my leave of absence from my regiment would not begin until December. I had already, in previous journeys through Russia, discovered what the term "cold" really means in that country, and, judging from the weather experienced by Captain Abbott when traveling in the month of March in a latitude a good deal to the south of that which seemed to me the most practicable, I felt convinced that careful preparations must be made for a ride through the steppes in midwinter or that I should inevitably be frozen. The cold of the Kirghiz desert is a thing unknown, I believe, in any other part of the world, or even in the Arctic regions. An

enormous expanse of flat country, extending for hundreds of miles and devoid of everything save snow and salt lakes and here and there *saksavol*, a species of bramble-tree, would have to be traversed on horseback ere Khiva could be reached. The winds in those parts of Asia are unknown to the inhabitants of Europe, who, when they grumble at the so-called east wind, can little imagine what that wind is like in those countries which lie exposed to the full fury of its first onslaught. For there you meet with no warm ocean to mollify its rigor, no tree, no rising land, no hills or mountains to check it in its course, and it blows on uninterruptedly over a vast snow and salt covered track, until, absorbing the saline matter, it cuts the faces of those exposed to its gusts with a sensation more like the application of the edge of a razor than anything else to which it can be likened.

There was, beside this, something else to be taken into consideration. I was well aware that no assistance could be expected from the Russian authorities, who might not content themselves by indirectly throwing obstacles in my way, but might even stop me by sheer force if they found all other ways fail. The account of the prohibitory order which I had seen published in the "Pall Mall Gazette" was, I had every reason to believe, correct; and should I not find, after crossing the Ural river, and entering Asia, that my long sleigh journey had been all to no purpose and have to retrace my steps through European Russia? These were my first impressions on arriving in England; but on talking the matter over with some Russians of my acquaintance, they assured me that I was entirely mistaken; that, on the contrary, the authorities at St. Petersburg would readily permit English officers to travel in Central Asia, and it was observed that the order to which I had alluded referred only to merchants or people who tried to smuggle contraband goods into the recently annexed Khanates.

A few months later I had the honor of making the acquaintance of his Excellency Count Schouvaloff, the Russian ambassador in London and formerly the head of the secret

police at St. Petersburg. He was excessively kind and promised to do what he could to further my plans; but in an answer to a straightforward question as to whether I should be permitted to travel in Russian Asia or not his reply was: "My dear sir, that is a subject about which I cannot give you any answer; but, on arriving at St. Petersburg, the authorities there will be able to afford you every possible information." It was a diplomatic answer—one which bound the count to nothing, and I went away charmed with the tact and affability of the Russian ambassador. Apparently there was nothing to be learned officially from Russian sources; but unofficially, one by one, many little bits of information crept out. I now learned that General Milutin, the Minister of War at St. Petersburg, was personally very opposed to the idea of an English officer traveling in Central Asia, particularly in that part which lies between the boundaries of British India and Russia. According to him, a Russian traveler, a Mr. Pachino, had not been well treated by the authorities in India, and this gentleman had not been permitted to enter Afghanistan, and, in consequence, General Milutin did not see why he should allow an Englishman to do what was denied to a Russian subject.

Another peculiarity which I remarked in several Russians whose acquaintance I had at that time the honor of making, it may here be not out of place to mention. This was their desire to impress upon my mind the great advantage it would be for England to have a civilized neighbor like Russia on her Indian frontier; and when I did not take the trouble to dissent from their views—for it is a waste of breath to argue with Russians about this question—how eager they were for me to impress their line of thought upon the circle of people with whom I was the more immediately connected. Of course, the arguments brought forward were based upon purely philanthropic motives, upon Christianity and civilization. They said that the two great powers ought to go together hand in glove; that there ought to be railways all through Asia, formed by Anglo-Russian companies; that Russia and England had every sympathy

in common which should unite them; that they both hated Germany and loved France; that England and Russia could conquer the world, and so on.

It was a line of reasoning delightfully Russian, and, though I was not so rude as to differ from my would-be persuaders and lent an attentive ear to all their eloquence, I could not help thinking that the mutual sympathy between England and Germany is much greater than that between England and Russia; that the Greek faith, as practiced by the lower orders in Russia, is pure paganism in comparison with the Protestant religion which exists in Prussia and Great Britain; that Germany and Great Britain are natural allies against Russia or any other power aggressively disposed toward them; that Germans and Englishmen who are well acquainted with Russia understand by the term "Russian civilization" something diametrically opposite to what is attributed to it by those people who form their ideas of Muscovite progress from the few Russians whom they meet abroad; and that the Honduras railway would be a paying concern to its English shareholders in comparison with an Anglo-Russian line to be constructed in Central Asia with English capital and Russian directors.

The time was wearing on, November was drawing to a close, my leave of absence would begin on the first of the following month, and on that day I must begin my travels. Preparations were rapidly made. Under the advice of Captain Allen Young, of Arctic fame, I ordered a huge water-proof and, consequently, air-proof, bag of prepared sail-cloth. The bag was seven feet and a half long and ten feet around. A large aperture was left on one side, and the traveler could thus take up his quarters inside and sleep well protected from the cold winds. The bag would also be useful in many other ways, and I found it of great convenience for every other purpose save the one for which it was originally intended. The manufacturer, not calculating on the enormous dimensions an individual assumes when enveloped in furs, had not made the aperture large enough, and the consequence was that the difficulties, when I at-

tempted to take a header into the recess of my sleeping apartment, were almost insurmountable, and only on one occasion, and when clad somewhat more lightly than usual, I succeeded in effecting an entrance. Four pairs of the thickest Scotch fishing stockings were also ordered, and jerseys and flannel shirts of a texture to which people in this country are but little accustomed. Then came a suit of clothes, made by Messrs. Kine of Regent Street, and in which they assured me it would be impossible to feel cold. The clothes, I must admit, were exceptionally well made and well suited to be worn under a sheepskin attire; but I cannot wish my worst enemy a greater punishment than forcing him to sleep out on the steppes in winter time with mere cloth attire, no matter how thick. Fur or skins of some kind must be worn, or without this precaution the traveler, should he once close his eyes, will undergo a great risk of never opening them again. Two pairs of boots lined with fur were also taken; and for physic—with which it is as well to be supplied when traveling in out-of-the-way places—some quinine and Cockle's pills, the latter a most invaluable medicine, and one which I have used on the natives of Central Africa with the greatest possible success. In fact, the marvelous effects produced upon the mind and body of an Arab sheik, who was impervious to all native medicines, when I administered to him five Cockle's pills, will never fade from my memory, and a friend of mine, who passed through the same district many months afterward, informed me that my fame as a "medicine man" had not died out, but that the marvelous cure was even then a theme of conversation in the bazaar.

So far as I could learn from the books which related to Central Asia, there would be but little game and nothing particular in the shape of sport; so I determined not to take a rifle, when the cartridges would have considerably added to the weight of my luggage, the prime object being to travel as light as possible. However, as it was well to have some sort of gun in the event of falling in with wild fowl, which I had been told abounded in some places, I

took a favorite old No. 12 small bore, and some cartridges made up with No. 5 shot and ball, in the event of falling in with any bears or wolves, while a regulation revolver, with about twenty cartridges, made up my defensive arsenal in the event of an attack from the Turkomans. The next thing to be thought of was a cooking apparatus, and if I had taken the advice of many kind friends I should have traveled with a *batterie de cuisine* sufficient for the wants of Mr. Soyer himself. But canteens could not be thought of for a moment, on account of the extra weight, so I limited myself to two soldiers' mess tins, and admirable little utensils they are, too, whether for cooking over a spirit lamp or on a fire, and far superior to any of the more costly and cumbersome articles especially invented to get out of order and perplex the traveler. A trooper's hold-all, with the accompanying knife, fork, and spoon, completed my kit, and with a thermometer, barometer, and pocket sextant by way of instruments, I was ready to start. Even this amount of luggage was much more than was desirable, and when placing the baggage for my journey—consisting of the sleeping-sack, a pair of saddle-bags, railway bag and gun—into the scales, I found that it weighed exactly eighty-five pounds. An officer in the Foot-guards, my friend K——, wished very much to accompany me in my journey, and he would have been a most cheery and agreeable companion, as he was accustomed to travel and capable of roughing it to any amount; but as he was ignorant of Russian,—and by this time I was thoroughly aware of the difficulties that would most likely be thrown in my way, and of the little chance I had of getting to Khiva alone,—I was compelled at the last moment, with great reluctance, to decline his proposal.

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On the track again, but this time alone in my apartment till I was joined by an official, whose business it was to inspect the line between Moscow and Riayan. His chief object was to find out if any unnecessary delays took place at the different stations on this railway, a number of complaints having been lately made about the unpunctuality of

the trains. It was supposed to be the station-master's fault, and that these officials, being slack in the performance of their duty, were the main cause of the delay. "I could easily find them out," remarked the inspector, "if it were not for the confounded telegraph, but that beats me; for the rogues are all in collusion the one with the other, and as soon as ever they see me on the platform they telegraph the intelligence to their brethren down the line."

It appeared that there used formerly to be a great deal of fraud committed on the railway companies in Russia by the guards of the trains, who would ask a passenger, when about to take his ticket at the booking-office, "What class are you going by?" If by the first or second, the guard would say, "Take a third-class ticket; give me a few rubles, and I will let you go first-class, as I am guard of the train by which you will travel." But, according to the inspector, this system of roguery has now been put down, and the result is a better return on the railway capital, although up to the present time the lines have been anything but remunerative to investors. From the inspector I found out that I ought to have taken my ticket to Sizeran, which was the terminus of the line in the direction of Orenburg, but that it was too late now to pay the difference, and that I must wait till we arrived at Penza, when I should just have time to get a new ticket, and re-label my luggage.

It was a bitter cold night, in spite of all our furs, and at Riayan, where it was necessary to wait an hour, and to change trains, a fellow-traveler, a Russian nobleman, who had got into the carriage at an intermediate station, was very indignant with the stoker whose business it was to keep up the fire, and repeatedly called him the son of an animal, the culprit trembling and crying out as if he were under the lash of a whip.

It will take a good many years thoroughly to eliminate the old spirit of serfdom in Russia, although the law has long ceased to exist, and the men who have been brought up as slaves find it difficult to get rid of a feeling of awe when they are in the presence of their superiors. Perhaps it

is as well that things follow on in this groove, for it would be a bitter day for Russia should the Socialistic and Nihilist tendencies which are being developed in her larger towns become extended amidst her rural population. At the present moment the love for the emperor predominates over every feeling but one amidst the peasantry; and this devotion to their Father, as he is termed, is well deserved, for the Emperor Alexander underwent an enormous personal risk when, at one stroke of the pen, he did away with slavery in his dominions. It was a step which required great moral courage on the part of its originator, and few emperors would have risked mortally offending the upper classes of the country, even to do an act of justice to the lower.

Probably the only influence which could be brought to bear upon a peasant's mind, to such an extent that I believe it would counterbalance his affection for the Tsar, is the religious one. In perhaps no country in the world has this element so powerful a sway as in Russia. In religion, coupled with superstition, lay a power which could even thwart the wishes of the Emperor Nicholas himself; and the ecclesiastical hierarchy is certainly more powerful than the Tsar. Hitherto the two dominant influences have gone hand-in-glove together; and it is as well that it should be so, for any rupture between them would inevitably lead to a revolution.

In the waiting-room at Riajsk waiters were hurrying about with glasses of scalding tea, which were eagerly called for by the traveler. In fact, the amount of this beverage that a Russian can drink is somewhat astonishing to the stranger; and the traditional washerwoman of our country, whose capabilities in this respect are supposed to be unrivaled, would have no chance whatever if pitted against a subject of the Tsar. A large *samovar* (a brass urn) stood on the refreshment table, the water being kept to boiling-point, not by a funnel as in England, but by a funnel which fitted into the center of the urn, and was filled with red-hot charcoal. Economy was evidently the order of the day with some of the travelers; for instead of putting the sugar into their

glasses, they would take a lump in their mouths, and thus sweeten the scalding draught.

I took advantage of our delay at Riajsk, and walked through the other waiting-rooms. These were crammed with third-class passengers. It was a strange sight to see the mixture of different nationalities, which, huddled together like sheep, lay in different attitudes on the floor. Here a Tartar merchant, his head covered with a small yellow fez, while a long parti-colored gown and a pair of high boots completed his attire, was fast asleep in a corner. A woman, her face covered with a thick white veil, lay folded in his arms; while a child, enveloped in a bundle of rags, was playing with the fur cap of its parent. Next to them a man, whose peculiarly-shaped nose showed a distinct relationship to the tribe of Israel, was breathing hard through his nasal organ. From time to time he clutched convulsively at a small leather bag, which, half hidden beneath a greasy-looking black coat, was, even in his dreams, a source of anxiety. Peasants in every posture, their well-knit frames clad in untanned leather, which was tightly girt about their loins with narrow leather belts, studded with buttons of brass and silver, reëchoed the Hebrew's melody. An old Bokharan, in flowing robes, sat listlessly, with his legs twisted up under him, beside the stove. He appeared to be under the influence of opium, and was possibly dreaming of celestial houris and bliss to come; while a smart-looking lad —perhaps his son, judging from the likeness between them —had withdrawn a little from the rest of the throng, apparently not very well pleased by his vicinity to the Russian peasants.

The Mohammedans of Central Asia have certainly one great advantage over the Moujik, and that is their love for water; indeed, if the Russian peasant could only be persuaded to be a little more particular in his ablutions, it would be conducive, if not to his own comfort, at least to that of his fellow-travelers. Superstition and dirt are twin-brothers in Russia, and I have frequently observed that the more particular a peasant is in his adoration of the various idols

(*obrazye*), which are prominently displayed on the threshold of every cottage, the more utterly he is forgetful of the advantages of soap and water.

At Penza I had barely time to secure another ticket on to Sizeran, where my railway traveling would terminate, and presently found myself in a large saloon carriage. Here almost every seat was taken, and the porters had piled upon them some railway bags and parcels belonging to passengers traveling in another carriage. These articles had been put in while the owners were in the waiting-rooms, the object being to diminish the length of the train. This was attained, but at the cost of considerable discomfort to the travelers, who were eagerly searching for their lost property by the dim light of a smoky tallow-dip.

In the course of conversation with one of the party, a tall and very stout middle-aged man, I discovered that my shortest route to Orenburg would be through Samara. He said that he was going to the last-mentioned town, and proposed that we should hire a *troika*—a three-horse sleigh—and travel together. I readily embraced the offer, when, after a few hours' more traveling, we stepped out on the platform of the station at Sizeran. Here my companion was evidently well known, for the railway officials and porters respectfully saluted him, and hastened to bring our luggage to the waiting-room. I must say that I was surprised to find so good a refreshment-room so far from the capital, as, with but very short halts for the purpose of changing trains, we had been traveling for more than sixty hours, and all this time in the direction of Asia, on nearing which you expect at each stride to leave civilization farther and farther in your wake. But the buffet at Sizeran left nothing to be desired; and, in a very short time, as good a breakfast was supplied as could be obtained in any French restaurant.

We now had to think over the preparations for our sleigh journey, and, after a little bargaining, my companion made arrangements with a farmer in the neighborhood to supply us with a sleigh and relays of horses as far as Samara. The

distance is about eighty-five miles, and there is no regular government postal station between the two towns.

"You had better put on plenty of clothes," was the friendly caution I received from my companion as I entered the dressing-room, "for the thermometer marks twenty degrees below zero (Reaumur), and there is a wind." People in this country who have never experienced a Russian winter have little idea of the difference even a slight breeze makes when the mercury stands low in the thermometer, for the wind then cuts through you, furs and all, and penetrates to the very bones. Determining to be on my guard against the frost, I dressed myself, as I thought, as warmly as possible, and so as to be utterly impervious to the elements.

First came three pairs of the thickest stockings, drawn up high above the knee, and over them a pair of fur-lined low shoes, which in their turn were inserted into leather galoshes, my limbs being finally deposited in a pair of enormous cloth boots, the latter reaching up to the thigh. Previously I had put on some extra thick drawers and a pair of trousers, the astonishment of the foreman of Messrs. Kine's establishment. "Lord love you, sir," being his remark when I tried them on, "no cold can get through them trousers, anyhow!" I must confess that I rather chuckled as my legs assumed herculean proportions, and I thought that I should have a good laugh at the wind, no matter how cutting it might be; but Æolus had the laugh on his side before the journey was over. A heavy flannel undershirt, and shirt covered by a thick wadded waistcoat and coat, encased my body, which was further enveloped in a huge *shuba*, or fur pelisse, reaching to the heels, while my head was protected by a fur cap and *vashlick*, a sort of cloth head-piece, of a conical shape, made to cover the cap, and having two long ends which tie round the throat.

Being thus accoutered in all my armor, I sallied forth to join my companion, who, an enormous man naturally, now seemed a very Colossus of Rhodes in his own winter attire. How people would have laughed if they could have seen us

in Piccadilly in our costumes! "I think you will do," said my friend, scanning me well over; "but you will find your feet get very cold, for all that. It takes a day or so to get used to this sleigh traveling; and though I am only going a little beyond Samara, I shall be uncommonly glad when my journey is over."

He was buckling on his revolver; and as we were informed that there were a great many wolves in the neighborhood, I tried to do the same; but this was an impossibility. The man who made the belt had never foreseen the gigantic proportions my waist would assume when clad in this Russian garb. I was obliged to give it up in despair, and contented myself by strapping the weapon outside my saddle-bags.

For provisions for possibly a thirty-six hours' journey, and as nothing could be bought to eat on the road, I provided myself with some cutlets and chicken, which fitted capitally into the mess-tins, while my companion agreed to furnish the tea and bread, the former an article without which no true Russian will ever travel. He had not much baggage with him, and my own was reduced to as little as possible; but we soon discovered that it was impossible to stow away the luggage in the first sleigh that had been brought for our inspection, for when my railway-bag, saddle-bags, cartridge-box, gun, and sleeping-sack had been put inside, and were well covered with straw, I essayed to sit upon them, but found that there was too little distance from the improvised seat to the roof, and my back was nearly bent double in consequence.

"Bring out another sleigh," said my friend. "How the wind cuts! does it not?" he continued, as the breeze, whistling against our bodies, made itself felt in spite of all the precautions we had taken. The vehicle now brought was broader and more commodious than the previous one, which, somewhat in the shape of a coffin, seemed specially designed so as to torture the occupants, particularly if, like my companion and self, they should happen to be endowed by nature with that curse during a sleigh journey—however

desirable appendages they may be when in a crowd—long legs. Three horses abreast, their coats white with pendant icicles and hoar-frost, were harnessed to the sleigh; the center animal was in the shafts, and had his head fastened to a huge wooden head-collar, bright with various colors. From the summit of the head-collar was suspended a bell, while the two outside horses were harnessed by cord traces to splinter-bars attached to the sides of the sleigh. The object of all this is to make the animal in the middle trot at a brisk pace, while his two companions gallop, their necks arched round in a direction opposite to the horse in the center, this poor beast's head being tightly reined up to the head-collar.

A well-turned-out *troika*, with three really good horses, which get over the ground at the rate of twelve miles an hour, is a pretty sight to witness, particularly if the team has been properly trained, and the outside animals never attempt to break into a trot, while the one in the shafts steps forward with high action; but the constrained position in which the horses are kept must be highly uncomfortable to them, and one not calculated to enable a driver to get as much pace out of his animals as they could give him if harnessed in another manner.

Off we went at a brisk pace, the bell dangling from our horse's head-collar, and jingling merrily at every stride of the team.

The sun rose high in the heavens. It was a bright and glorious morning in spite of the intense cold, and the amount of oxygen we inhaled was enough to elevate the spirits of the most dyspeptic of mankind. Presently, after descending a slight declivity, our Jehu turned sharply to the right; then came a scramble, and a succession of jolts and jerks, as we slid down a steep bank, and we found ourselves on what appeared to be a broad high-road. Here the sight of many masts and shipping which, bound in by the iron fetters of a relentless winter, would remain imbedded in the ice till the ensuing spring, showed me that we were on the Volga. It was an animated spectacle, this frozen highway,

thronged with peasants, who strode beside their sledges, which were bringing cotton and other goods from Orenburg to the railway. Now a smart *troika* would dash by us, its driver shouting as he passed, when our Jehu, stimulating his steeds by loud cries and frequent applications of the whip, would vainly strive to overtake his brother coachman. Old and young alike seemed like octogenarians, their short, thick beards and mustaches being white as hoar-frost from the congealed breath. According to all accounts the river had not been long frozen, and till very recently steamers laden with corn from Southern Russia had plied between Sizeran and Samara. The price of corn is here forty copecks the pood of forty pounds, while the same quantity at Samara could be purchased for eighteen copecks. An iron bridge was being constructed a little farther down the Volga. Here the railroad was to pass, and it was said that in two years' time there would be railway communication, not only between Samara and the capital, but even as far as Orenburg.

Presently the scenery became very picturesque as we raced over the glistening surface, which flashed like a burnished cuirass beneath the rays of the rising sun. Now we approach a spot where seemingly the waters from some violent blast or other had been in a state of foam and commotion, when a stern frost transformed them into a solid mass. Pillars and blocks of the shining and hardened element were seen, modeled into a thousand quaint and grotesque patterns. Here a fountain, perfectly formed, with Ionic and Doric columns, was reflecting a thousand prismatic hues from the diamond-like stalactites which had attached themselves to its crest. There a huge obelisk, which, if of stone, might have come from ancient Thebes, lay half-buried beneath a pile of fleecy snow. Farther on we came to what might have been a Roman temple or vast hall in the palace of a Cæsar, where many half-hidden pillars and monuments erected their tapering summits above the piles of the débris. The wind had done in that northern latitude what had been performed by some violent pre-Adamite agency in the Ber-

ber desert. Take away the ebon blackness of the stony masses which have been there cast forth from the bowels of the earth, and replace them on a smaller scale by the crystal forms I have faintly attempted to describe, and the resemblance would be striking.

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We were now fast nearing Khiva, which could be just discerned in the distance, but was hidden, to a certain extent, by a narrow belt of tall, graceful trees; however, some richly-painted minarets and high domes of colored tiles could be seen towering above the leafy groves. Orchards, surrounded by walls eight and ten feet high, continually met the gaze, and avenues of mulberry trees studded the landscape in all directions.

The two Khivans rode first; I followed, having put on my black fur pelisse instead of the sheepskin garment, so as to present a more respectable appearance on entering the city. Nazar, who was mounted on the horse that stumbled, brought up the rear. He had desired the camel-driver to follow in the distance with the messenger and the caravan, my servant being of opinion that the number of our animals was not sufficient to impress deeply the Khivans with my importance, and that on this occasion it was better to ride in without any caravan than with the small one I possessed. We now entered the city, which is of oblong form, and surrounded by two walls; the outer one is about fifty feet high; its basement is constructed of baked bricks, the upper part being built of dried clay. This forms the first line of defense, and completely encircles the town, which is about a quarter of a mile within the wall. Four high wooden gates, clamped with iron, barred the approach from the north, south, east, and west, while the walls themselves were in many places out of repair.

The town itself is surrounded by a second wall, not quite so high as the one just described, and with a dry ditch, which is now half filled with ruined débris. The slope which leads from the wall to the trench had been used as a cemetery, and hundreds of sepulchers and tombs were scat-

tered along some undulating ground just without the city. The space between the first and second walls is used as a market-place, where cattle, horses, sheep, and camels are sold, and where a number of carts were standing, filled with corn and grass.

Here an ominous-looking cross-beam had been erected, towering high above the heads of the people with its bare, gaunt poles.

This was the gallows on which all people convicted of theft are executed; murderers being put to death in a different manner, having their throats cut from ear to ear in the same way that sheep are killed.

This punishment is carried out by the side of a large hole in the ground, not far from the principal street in the center of the town. But I must here remark that the many cruelties stated to have been perpetrated by the present khan previous to the capture of his city did not take place. Indeed, they existed only in the fertile Muscovite imagination, which was eager to find an excuse for the appropriation of a neighbor's property. On the contrary, capital punishment was inflicted only when the laws had been infringed; and there is no instance of the khan having arbitrarily put any one to death.

The two walls above mentioned appear to have made up the defenses of the city, which was also armed with sixteen guns. These, however, proved practically useless against the Russians, as the garrison fired only solid shot, not being provided with shell. The khan seemed to have made no use whatever of the many enclosed gardens in the vicinity of the city during the Russian advance, as, if he had, and firmly contested each yard of soil, I much doubt whether the Tsar's troops could have ever entered the city.

It is difficult to estimate the population of an Oriental city by simply riding around its walls; so many houses are uninhabited, and others again are densely packed with inhabitants. However, I should say, as a mere guess, that there are about 25,000 human beings within the walls of Khiva. The streets are broad and clean, while the houses

belonging to the richer inhabitants are built of highly polished bricks, and colored tiles, which lend a cheerful aspect to the otherwise somewhat somber color of the surroundings. There are nine schools; the largest, which contains one hundred and thirty pupils, was built by the father of the present khan. These buildings are all constructed with high, colored domes, and are ornamented with frescos and arabesque work, the bright aspect of the cupolas first attracting the stranger's attention on his nearing the city.

ASIA

The Taj Mahal

By JOSEPH MOORE

DELHI, the capital of the extinct Mogul Empire, is the Mecca of the East. What a train of thought is suggested by its very name! With a history dating back to the mythical period of the early Aryans, it was destroyed seven times and as often rose again to dominion and grandeur.

Here the Pathans of Ghuzni, under Mohammed Ghery, founded (A. D. 1193) the Moslem empire of India, and two centuries later (1398) the ruthless Tamerlane came with his fanatical hordes to burn, plunder, and drench the streets with blood. Next the Sultan Baber, the descendant of Zhenghis Khan and Tamerlane, crossed the Indus and established the Mogul throne (1526) in the conquered city. This memorable dynasty continued to flourish, with only one interruption, and with increasing luster, for a hundred and eighty years, under a succession, unprecedented in Indian history, of six sovereigns distinguished by their gallantry in the field, and, with one exception, by their ability in the cabinet.

This galaxy of successful though cruelly rapacious and utterly unprincipled rulers consists of Baber, Humayoon, Akbar, Jehangeer, Shah Jehan, and Aurungzebe. About these names cluster the relics of the power and splendor of the Great Moguls, the superb monuments of dazzling extravagance by which travelers are chiefly drawn to the imperial seats of Delhi and Agra.

Modern Delhi is the work of the Emperor Shah Jehan (1627-1658), a monarch celebrated for the splendor of his tastes, for the order of his finances, and for his love of building. As the new city approached completion he left Agra, whither the great Akbar had removed his court, and Delhi again became the Mogul capital.

The fort, or citadel—which contains the palace, now partly destroyed, the exquisite marble gem known as the Pearl Mosque, the luxurious baths, and the lavish pavilions of state—is the finest in India. Its gateways are in themselves imposing structures, and the lofty castellated walls of red sandstone describe a circuit of more than a mile. Within the enclosure of the city are the famous shalimar gardens, now called the Queen's, beyond which the inmates of the zenana, or harem, never passed. The culmination of all this magnificence is reached in the Dewan-i-Khas, or Hall of Private Audience, which overlooks the river Jumna and the plain. This edifice is of marble, open at the sides, and supported by massive square columns, the whole being adorned with mosaics of costly stones and inlaid gold. Adjoining it are the private apartments of the sovereign, where the pierced marble screens, wrought in floral designs, are of startling richness.

In this hall stood the renowned Peacock Throne, which was plundered by the Persians, a mass of solid gold flanked by two peacocks with distended tails, all studded with diamonds and rubies, sapphires, emeralds and pearls. The value of this wonder was estimated at six crores, or sixty millions of rupees, nominally thirty millions of dollars.

On the cornices of the marble platform which bore the throne is the Persian inscription which Thomas Moore introduced so effectively in "The Light of the Harem":

> "And, oh, if there be an Elysium on earth,
> It is this, it is this."

Shah Jehan was not long permitted to enjoy the grandeur he had created. During an illness which brought him to the point of death, his four sons became involved in a bitter conflict for the succession; and so far had it been carried by

the time of his recovery that he was unable to resume his authority. The bold and subtle Aurungzebe overpowered all resistance, dethroned his father, and imprisoned the fallen monarch in the fort at Agra. There he spent the remaining seven years of his life, within sight of that sublime mausoleum, the Taj, which he had reared to the memory of the adored wife of his youth.

Despite this heartless act, to which he added the death of his brothers, Aurungzebe lived to reign almost half a century (1658-1707), and to wage a war of intolerance for twenty-five years. But the close of his career was tortured by suspicion, gloom, and remorse, and after his death the strained empire began to decline.

Lalla Rookh was the daughter of this cruel prince, and it was from the gate of the fort, already noticed, that she set out upon the journey to reach her future husband in the Vale of Cashmere. The day of her "departure was as splendid as sunshine and pageantry could make it. The bazaars were all covered with the richest tapestry, hundreds of gilded barges upon the Jumna floated with their banners shining in the water, while through the streets groups of children went strewing the most delicious flowers around. And as Aurungzebe stood to take a last look from his balcony, the procession moved slowly on the road to Lahore."

Although Ireland's sweetest lyrist never visited the East, the scene he pictures may have been enacted at Delhi a century before his generation. But if his studies of forgotten writers have not prompted him to exaggerate, as in many instances, how completely has everything changed! Not a shred of the pomp he sketches is now to be seen. . . . Delhi is yet the revered center of the forty millions of Moslems in India. Their cathedral mosque, the Jumna Musjid, is the most imposing religious edifice in the Peninsula. It is built of red stone, and stands on an elevated terrace, approached by a lofty flight of steps. Upon passing any of the three gates we enter an immense paved quadrangle, with a marble reservoir in the middle, and surrounded by a cloistered colonnade.

BUDDHIST PRIESTS.

The mosque itself, on the western side of the inclosure, is surmounted by three bulbous domes of white marble, flanked by two high minarets constructed of alternate vertical stripes of marble and red sandstone. "The whole," says Fergusson, "forms a group intelligible at the first glance, and, as an architectural object, possesses a variety of outline and play of light and shade which few buildings can equal." . . .

Delhi has now less than 200,000 population, but it once had almost 2,000,000. The remains of the cities which preceded the present one are strewn in profusion over the neighboring plain, covering a distance of nearly sixty square miles. Temples and mosques, tombs and palaces, walls and forts, are here crumbling and falling unheeded and deserted.

In the midst of this decay is the magnificent Kootub Minar, the loftiest independent tower on the globe, excepting the Washington Monument. Although it has stood nearly seven hundred years, time has scarcely marred this noble achievement of Pathan architecture, unquestionably one of the wonders of the mediæval world. It far surpasses either the Campanile of Florence or the Giralda of Seville, while the tower of the Kremlin, probably the highest in Europe, is unworthy of comparison, because of its inferior construction.

We spent two days in exploring this vast area of ruins, and marveled at the infinite waste which man has committed in the name of religion and through vain efforts to perpetuate his own memory. The moral of this sumptuous wreck, the fabrics of wealth wrung from the poor, is written in the eternal law of nations that the era of luxury is the herald of decline. A conquered race, dragging out a most abject existence, peoples this land of fabled riches, and the vacant thrones of the tyrant Moguls, symbols of a "Paradise lost," stand in the gorgeous halls of state, waiting for Old Mortality to inscribe them with the words of Milton—

"They themselves ordained their fall."

As we rolled away from Delhi and crossed the Jumna

bridge, the young crescent faintly illuminated the snowy domes of the immaculate Pearl Mosque. In the distance we could distinguish the tall memorial column on the commanding ridge from which British guns thundered their command to the mutineers to yield the stolen city. When the train halted for a moment on the bridge, we caught the martial notes of the English bugler within the embattled citadel of the splendor-loving Shah Jehan. The exquisite marble balcony, in which the Great Moguls sat to review their legions, was vacant, and the parade-plain beneath as silent and peaceful as the shallow, winding Jumna.

Lahore, the present capital of the Punjaub, holds an important place in Mogul history, and the plain which surrounds it, like that of Delhi, is marked with the ruins of its departed greatness. It was the chosen residence of the Emperor Jehangeer, whose splendid mausoleum, richly decorated with mosaics, stands on the opposite banks of the river Ravee from the city. Before his accession to the throne this prince was called Selim, the name under which he appears in "Lalla Rookh" as the estranged lover of Noor Mahal, the "Light of the Harem." But history presents a different story of this couple from that woven by the poet's fancy. Jehangeer, who was a drunkard and of cruel instincts, already had four wives when he fell in love with the beautiful Noor Mahal. She was the daughter of a Persian adventurer named Itmadood-Dowlah, who afterward became prime minister of the empire. The great Akbar, father of the prince, interfered and dispatched the girl to Bengal, where she married one Sher Ufgun.

When Akbar died, Jehangeer sent for the object of his affection. Her husband naturally objected to the transfer, so he was put to the sword to remove the difficulty. The lady was then brought to Agra, where the Emperor awaited her, but she indignantly refused his advances. This was the "something light as air" which Moore, with rosy imagination, has transformed into a mere lovers' tiff, upon the occasion of the Feast of Roses in the Shalimar Gardens at Cashmere.

The lady's ambition, however, shortly allayed her scornful anger and obscured the memory of her murdered husband. She wedded the sanguinary suitor, and was raised to the throne as the favorite Empress. At this time she was a woman of middle age. In addition to these realisms, the veil of romance in which Moore has enveloped her is further rent by the fact that she was a virago, and given to unscrupulous political intrigue.

On the other hand, it must be stated that husband and wife were very devotedly attached to each other. When the Emperor died he was profoundly mourned by Noor Mahal, who reared the costly tomb in which she was afterwards laid by his side. . . .

One relic of that storied past yet exists in all its luxurious beauty—Shah Jehan's House of Joy, the Shalimar Gardens. We wandered through the orange groves and erotic retreats of this elysium, picturing in our imagination the days of history and of song, when the marble pavements were trodden by the houris of the zenana, and the five hundred fountains, strung in endless vista, terrace upon terrace, threw their sparkling jets into the sunshine to greet the august presence of the Great Mogul.

When we arrived at Agra the great Mohammedan festival of the Moharram was at its height. In the bazaars, the shops of the Moslems and of many of the Hindoos were closed, and the streets thronged with people in gay holiday attire. Nautch girls, wives, and daughters, all decked with the showy trinkets of the East, filled the windows and balconies, waiting for the culminating pageant of the day. As the procession approached, the crowd surged toward its head, and the excitement became intense. . . .

Agra is essentially a Mogul city, and nowhere are the wealth and splendor of that oppressive dynasty evinced to a greater degree than in its sumptuous monuments. Here Akbar located his capital and built the imposing citadel which overhangs the Jumna. Within its crenelated walls, a mile and a half in circuit, stand the architectural gems, some in a condition of ruin, which attest the magnificence of

the imperial court. After passing the massive gate-way of the inclosure, itself a fortress, and crossing a garden, we come to the Hall of Public Audience. Next we enter the zenana, where the beauty of the East was once gathered, and then the luxurious baths, all lavishly adorned, which resemble the cool retreats and sprinkling fountains of the Alhambra. One of these chambers and its passages, called the Palace of Glass, are decorated with little mirrors, similar to the room at Ambher.

The Hall of Private Audience consists of two pavilions, smaller than the one at Delhi and more of the Hindoo style, but almost as richly finished. Here we found the Black Throne of Akbar, upon which we coiled ourselves in Oriental fashion, without, however, feeling like a Great Mogul.

Then follow the elegant private apartments of the Emperor, and pavilions, kiosks, and balconies overlooking the river, seventy feet below, all of snowy marble, with exquisite fretted lattices of the same material and inlaid with mosaics of precious stones.

Near by is the immaculate Pearl Mosque, which is much larger than its queenly namesake at Delhi. Although purely Saracenic in style, this edifice depends for its exalted effect upon absolute simplicity of outline and graceful proportion, eschewing almost all ornament. The whole is of white marble, from the pavement of the court to the three crowning domes, "silvery bubbles which have rested a moment on its walls, and which the next breeze will sweep away."

Even while the Fort was in process of construction, Akbar was engaged in rearing a stupendous summer establishment about twenty miles from Agra.

The ruins of this city, for such it is, are within a walled park, seven miles in circumference, embracing the present villages Fullehpur and Sikri. The plateau of a long, rocky hill, in the center of the inclosure, was selected for the court, and upon this site arose a prodigal array of stately piles. Red sandstone is the prevailing material, but consid-

erable marble was also used. Many of these structures are yet intact, while others exist in a state of partial decay.

According to the statements of early travelers, Akbar once intended this "most noble city" for his seat of government. Scarcely, however, was it completed before he quitted the place for sanitary reasons. Palaces and mosques, zenanas and baths, walls and towers, tombs and gate-ways, pavilions, courts, and halls, built with the money and the labor of his subjects, were thus abandoned to neglect and decline.

This transitory paradise seems to have owed its creation to the advice of a fakir, or holy mendicant, named Shekh Selim—whose marble tomb stands in the quadrangle of the mosque—to commemorate the birth of the child that became the Emperor Jehangeer. Legend has interwoven its story with the history of this event, but in whatever light it may be viewed, we must conclude that Akbar either abetted a fraud or yielded to the baldest superstition.

But with all his faults Akbar was the greatest prince that ever sat on the throne of the Moguls. Although constantly at war, he never lost a battle. During his reign the dominion of the empire was vastly extended, and wise reforms were successfully introduced. While a Mohammedan by birth and education, he was tolerant of all religions. At one time he inclined to a belief in Christ, when he married the alleged Christian lady, the Miriam of Whittier's exquisite poem, whose tomb is pointed out near his own superb mausoleum at Secundra, a short drive from Agra. He invited Hindoos to accept civil and military offices, and chose two wives of that faith.

Akbar's efforts to establish religious equality led him to devise an eclectic creed, which sought to unite the followers of Christ, of Zoroaster, of Brahma, and of Mohammed. In this impossible task he naturally encountered failure, and the abnormal system died with its founder.

Every department of his court was sustained upon a scale of splendor before unknown in India. Under him and his successors Agra blended the magnificence of the palaces of

Nineveh and the temples of Babylon with the enchantments of the sylvan elysium of Cashmere.

Yet after the recital of all this wondrous grandeur the crowning glory of Agra and of India remains to be told. The incomparable Taj Mahal, that peerless marvel of love, of skill, of patience, of beauty, of treasure, and of power; the faultless, dazzling mausoleum which Shah Jehan raised to the memory of his beautiful idolized consort, in accordance with a promise made beside her death-bed. As a last request she begged of him a memorial befitting a queen. In response he vowed to rear above her remains a sepulcher that the world should hold matchless.

More than two centuries have elapsed since this shrine of affection was completed. Attracted by its fame, in that period travelers from every clime have journeyed to Agra to behold the jeweled wonder. Man is critical either from instinct or pedantry, but not a single voice has yet denied that Shah Jehan has redeemed the fullest measure of his pledge. . . .

Entering a magnificent gate-way, we find ourselves in a garden which rivals the charms of Shalimar. Before us stretches a lengthy avenue of the trembling cypress, along the middle of which a row of fountains toss their slender jets high into the stilly air—a superb vista, a third of a mile long. At the extreme end, partially obscured by the abundant foliage, rises the Taj, so white and dazzling that it seems to be the source of the sunlight which crowns it like an aureole.

Approaching it, we mount a broad terrace of red sandstone, upon which are two mosques of the same material, one on each side. From this base we ascend to a smaller platform of polished marble, whereon four towering minarets, snowy and graceful, dart upward from the corners. In the center of this fitting pedestal stands the Taj, radiant and of spotless white.

The edifice is square, but as the corners are truncated it might also be called octagonal. Surmounting it is a symmetrical, bulbous dome, flanked by four lesser bulbs raised

on delicate pavilions. A lofty arched entrance and twin pairs of smaller arches pierce each of the four identical *façades*, adding an air of lightness and plasticity to faultless proportions.

The walls of the exterior, not less than within, are lavishly embellished with inlaid vines and flowering texts from the Moslem scriptures. Indeed, it is credibly stated that the entire Koran is thus placed upon the mausoleum. Everywhere the finish is like that of a jewel-case, in supreme forgetfulness of toil or treasure.

We enter the rotunda, and stand thrilled by a beauty and solemnity which pass all expression. Lost in admiration, we unconsciously speak, and instantly the guardian Echo catches up the note and carries it round and round the lofty vault, calling it back softer and softer, as if not to wake the dead, until it fades into profound silence. Windows of marble lace temper the light within, harmonizing it with the religious sentiment which pervades the tomb.

Directly beneath the dome is the cenotaph of the Empress, covered with mosaics of flowers and foliage, wrought in turquoise and jasper, carnelian and sard, chalcedony and agate, lapis lazuli and jade, blood-stone onyx and heliotrope. Beside it is that of the Emperor, similarly adorned. Surrounding them is a screen of marble filigree elaborate and delicate beyond all conception.

In a vault below the central hall is the inlaid sarcophagus which contains the ashes of the lady of the Taj— Moontaz-i-Mahal, the Exalted One of the Harem. There, also, close to the bride of his youth, rests the faithful Shah Jehan. Deathless love joined forevermore.

We came by moonlight to this sanctuary, when all was silent save the rippling of the Jumna, which flows by its side; and, walking around the shimmering pile, confessed that "the rare genius of the calm building finds its way unchallenged to the heart."

ASIA

Sacred Haunts of Palestine

By A. W. KINGLAKE

WE crossed the Golden Horn in a caïque. As soon as we had landed, some woebegone-looking fellows were got together and laden with our baggage. Then on we went, dripping and sloshing, and looking very like men that had been turned back by the Royal Humane Society for being incurably drowned. Supporting our sick, we climbed up shelving steps, and threaded many windings, and at last came up into the main street of Pera, humbly hoping that we might not be judged guilty of the plague, and so be cast back with horror from the doors of the shuddering Christians.

Such was the condition of the little troop which fifteen days before had filed away so gayly from the gates of Belgrade. Two attacks of fever and a northeasterly storm had thoroughly spoiled our looks.

The interest of Mysseri with the house of Giuseppini was too powerful to be denied, and at once, though not without fear and trembling, we were admitted as guests.

Even if we don't take a part in the chant about "mosques and minarets," we can still yield praises to Stamboul. We can chant about the harbor; we can say and sing that nowhere else does the sea come so home to a city; there are no pebbly shores—no sand-bars—no slimy river-beds—no black canals—no locks nor docks to divide the very heart of the place from the deep waters. If, being in the noisiest

mart of Stamboul, you would stroll to the quiet side of the way amidst those cypresses opposite, you will cross the fathomless Bosporus; if you would go from your hotel to the bazaars, you must pass by the bright blue pathway of the Golden Horn, that can carry a thousand sail of the line. You are accustomed to the gondolas that glide among the palaces of St. Mark, but here, at Stamboul, it is a hundred-and-twenty-gun ship that meets you in the street. Venice strains out from the steadfast land, and in old times would send forth the Chief of the State to woo and wed the reluctant sea; but the stormy bride of the Doge is the bowing slave of the Sultan—she comes to his feet with the treasures of the world—she bears him from palace to palace—by some unfailing witchcraft she entices the breezes to follow her, and fan the pale cheek of her lord—she lifts his armed navies to the very gates of his garden—she watches the wall of his Serail—she stifles the intrigues of his Ministers—she quiets the scandals of his Court—she extinguishes his rivals, and hushes his wives all one by one. So vast are the wonders of the deep!

I caught one glimpse of the old heathen world. My habits of studying military subjects had been hardening my heart against poetry. Forever staring at the flames of battle, I had blinded myself to the lesser and finer lights that are shed from the imaginations of men. In my reading at this time, I delighted to follow from out of Arabian sands the feet of the armed believers, and to stand in the broad manifest storm-tract of Tartar devastation and thus, though surrounded at Constantinople by scenes of much interest to the classical scholar, I had cast aside their associations like an old Greek grammar, and turned my face to the "shining orient," forgetful of old Greece, and all the pure wealth she left to this matter-of-fact-ridden world. But it happened to me one day to mount the high grounds overhanging the streets of Pera. I sated my eye with the pomps of the city and its crowded waters, and then I looked over where Scutari lay half veiled in her mournful cypresses. I looked yet farther, and higher, and saw in the heavens a

silvery cloud that stood fast and still against the breeze; it was pure and dazzling white as might be the veil of Cytherea, yet touched with such fire, as though from beneath the loving eyes of an immortal were shining through and through. I knew the bearing, but had enormously misjudged its distance and underrated its height, and so it was as a sign and a testimony—almost as a call from the neglected gods, that now I saw and acknowledged the snowy crown of the Mysian Olympus!

I crossed the plain of Esdraelon, and entered among the hills of beautiful Galilee. It was at sunset that my path brought me sharply around into the gorge of a little valley, and close upon a gray mass of dwellings that lay happily nestled in the lap of the mountain. There was only one shining point still touched with the light of the sun, who had set for all besides ; a brave sign this to "holy Shereef," and the rest of my Moslem men; for the one glittering summit was the head of a minaret, and the rest of the seeming village that had veiled itself so meekly under the shades of evening was Christian Nazareth.

Within the precincts of the Latin convent there stands the great Catholic church which encloses the sanctuary—the dwelling of the blessed Virgin. This is a grotto of about ten feet either way, forming a little chapel or recess, and reached by descending steps. It is decorated with splendor; on the left hand a column of granite hangs from the top of the grotto to within a few feet of the ground; immediately beneath, another column of the same size rises from the ground as if to meet the one above; but between this and the suspended pillar there is an interval of more than a foot. These fragments once formed the single column on which the angel leant when he spoke and told to Mary the mystery of her awful blessedness. Hard by, near the altar, the holy Virgin was kneeling.

I had been journeying, cheerily indeed, for the voices of my followers were ever within my hearing, but yet, as it were, in solitude, for I had no comrade to whet the edge of my reason, or wake me from my noonday dreams. I was

left all alone to be taught and swayed by the beautiful circumstances of Palestine traveling—by the clime, and the land, and the name of the land, with all its mighty import —by the glittering freshness of the sward, and the abounding masses of flowers that furnished my sumptuous pathway —by the bracing and fragrant air that seemed to poise me in my saddle, and to lift me along as a planet appointed to glide through space.

And the end of my journey was Nazareth—the home of the blessed Virgin! In the first dawn of my manhood the old painters of Italy had taught me their worship of the beauty that is more than mortal; but those images all seemed shadowy now, and floated before me so dimly, the one overcasting the other, that they left me no one sweet idol on which I could look, and look again, and say, "Maria mia!" Yet they left me more than an idol—they left me (for to them I am wont to trace it) a faint apprehension of beauty not compassed with lines and shadows—they touched me (forgive, proud Marie of Anjou!), they touched me with a faith in loveliness transcending mortal shapes.

I came to Nazareth, and was led from the convent to the sanctuary. . . . so as I went, I trod tenderly, not looking to the right nor to the left, but bending my eyes to the ground.

The attending friar served me well—he led me down quietly, and all but silently, to the Virgin's home. The mystic air was so burnt with the consuming flames of the altar, and so laden with incense, that my chest labored strongly and heaved with luscious pain. There—there with beating heart the Virgin knelt, and listened; I strove to grasp and hold with my riveted eyes some one of the feigned Madonnas; but of all the heaven-lit faces imagined by men, there was none that would abide with me in this the very sanctuary. Impatient of vacancy, I grew madly strong against nature; and if by some awful spell, some impious rite, I could— Oh, most sweet religion, that bid me fear God, and be pious, and yet not cease from loving! Religion and gracious custom commanded me that I fall down loyally,

and kiss the rock that blessed Mary pressed. With a half consciousness—with the semblance of a thrilling hope that I was plunging deep, deep into my first knowledge of some most holy mystery, or of some new, rapturous, and daring sin, I knelt, and bowed down my face till I met the smooth rock with my lips.

Neither old "Sacred" himself, nor any of his helpers, knew the road which I meant to take from Nazareth to the Sea of Galilee, and from thence to Jerusalem, so I was forced to add another to my party by hiring a guide. . . .

I passed by Cana, and the house of the marriage feast prolonged by miraculous wine; I came to the field in which our Saviour had rebuked the Scotch Sabbath-keepers of that period, by suffering his disciples to pluck corn on the Lord's Day; I rode over the ground where the fainting multitude had been fed, and they showed me some massive fragments —the relics (they said) of that wondrous banquet, now turned into stone. The petrifaction was most complete.

I ascended the height where our Lord was standing when He wrought the miracle. The hill rose lofty enough to show me the fairness of the land on all sides; but I have an ancient love for the mere features of a lake, and so, forgetting all else when I reached the summit, I looked away eagerly to the eastward. There she lay, the Sea of Galilee. Less stern than Wastwater—less fair than gentle Windermere—she had still the winning ways of an English lake; she caught from the smiling heavens unceasing light and changeful phases of beauty; and with all this brightness on her face, she yet clung fondly to the dull he-looking mountain at her side, as if she would

> "Soothe him with her finer fancies,
> Touch him with her lighter thought."

If one might judge of men's real thoughts by their writings, it would seem that there are people who can visit an interesting locality, and follow up continuously the exact train of thought that ought to be suggested by the historical associations of the place. A person of this sort can go to

Athens and think of nothing later than the age of Pericles —can live with the Scipios as long as he stays in Rome. I am not thus docile; it is only by snatches, and for few moments together, that I can really associate a place with its proper history.

"There at Tiberias, and along this western shore toward the north, and upon the bosom, too, of the lake, our Saviour and His disciples—" Away flew those recollections, and my mind strained eastward, because that that farthest shore was the end of the world that belongs to man the dweller—the beginning of the other and veiled world that is held by the strange race, whose life (like the pastime of Satan) is a "going to and fro upon the face of the earth." From those gray hills right away to the gates of Bagdad stretched forth the mysterious "Desert"—not a pale, void, sandy tract, but a land abounding in rich pastures—a land without cities or towns, without any "respectable" people, or any "respectable" things, yet yielding its 80,000 cavalry to the beck of a few old men. But once more—"Tiberias —the plain of Gennesareth—the very earth on which I stood —that the deep, low tones of the Saviour's voice should have gone forth into Eternity from out of the midst of these hills and these valleys!"—Ay, ay, but yet again the calm face of the lake was uplifted, and smiled upon my eyes with such familiar gaze that the "deep low tones" were hushed —the listening multitudes all passed away, and instead there came to me a loving thought from over the seas in England —a thought more sweet than Gospel to a willful mortal like this. . . .

Except at Jerusalem, never think of attempting to sleep in a "holy city." Old Jews from all parts of the world go to lay their bones upon the sacred soil; and since these people never return to their homes, it follows that any domestic vermin they may bring with them are likely to become permanently resident, so that the population is continually increasing. No recent census had been taken when I was at Tiberias; but I know that the congregation of fleas which attended at my church alone must have been some-

thing enormous. It was a carnal, self-seeking congregation, wholly inattentive to the service which was going on, and devoted to the one object of having my blood. The fleas of all nations were there. The smug, steady, importunate flea from Holywell Street—the pert, jumping *puce* from hungry France—the wary, watchful *pulce*, with his poisoned stiletto—the vengeful *pulga* of Castile with his ugly knife—the German *floh* with his knife and fork, insatiate, not rising from table—whole swarms from all the Russias, and Asiatic hordes unnumbered—all these were there, and all rejoiced in one great international feast. I could no more defend myself against my enemies than if I had been *pain à discrétion* in the hands of a French communist. After passing a night like this, you are glad to gather up the remains of your body long, long before morning dawns. Your skin is scorched—your temples throb—your lips feel withered and dried—your burning eyeballs are screwed inward against the brain. You have no hope but only in the saddle and the freshness of the morning air.

I calculated that, on the preceding day, we had nearly performed a two days' journey, I concluded that the Dead Sea must be near. In this I was right; for at about three or four o'clock in the afternoon I caught a first sight of its dismal face.

I went on, and came near to those waters of Death; they stretched deeply into the southern desert, and before me, and all around, as far away as the eye could follow, blank hills piled high over hills, pale, yellow, and naked, walled up in her tomb forever the dead and damned Gomorrah. There was no fly that hummed in the forbidden air, but, instead, a deep stillness—no grass grew from the earth—no weed peered through the void sand; but, in mockery of all life, there were trees borne down by Jordan in some ancient flood, and these, grotesquely planted upon the forlorn shore, spread out their grim skeleton arms all scorched and charred to blackness, by the heats of the long, silent years. . . .

I bathed in the Dead Sea. The ground covered by the

water sloped so gradually that I was not only forced to "sneak in," but to walk through the water nearly a quarter of a mile before I could get out of my depth. When at last I was able to attempt to dive, the salts held in solution made my eyes smart so sharply that the pain I thus suffered, joined with the weakness occasioned by want of food, made me giddy and faint for some moments; but I soon grew better. I knew beforehand the impossibility of sinking in this buoyant water; but I was surprised to find that I could not swim at my accustomed pace; my legs and feet were lifted so high and dry out of the lake that my stroke was baffled, and I found myself kicking against the thin air, instead of the dense fluid upon which I was swimming. The water is perfectly bright and clear; its taste detestable. After finishing my attempts at swimming and diving, I took some time in regaining the shore; and, before I began to dress, I found that the sun had already evaporated the water which clung to me, and that my skin was thickly incrusted with salts.

The enthusiasm that had glowed, or seemed to glow, within me, for one blessed moment, when I knelt by the shrine of the Virgin at Nazareth, was not rekindled at Jerusalem. In the stead of the solemn gloom and the deep stillness rightfully belonging to the Holy City, there was the hum and the bustle of active life. It was the "height of the season." The Easter ceremonies drew near; the pilgrims were flocking in from all quarters, and although their objects were partly at least of a religious character, yet their "arrivals" brought as much stir and liveliness to the city as if they had come up to marry their daughters.

The votaries who every year crowd to the Holy Sepulchre are chiefly of the Greek and Armenian Churches. They are not drawn into Palestine by a mere sentimental longing to stand upon the ground trodden by our Saviour, but rather they perform the pilgrimage as a plain duty strongly inculcated by their religion. A very great proportion of those who belong to the Greek Church contrive at some time or other in the course of their lives to achieve the enterprise.

Many in their infancy and childhood are brought to the holy sites by their parents, but those who have not had this advantage will often make it the main object of their lives to save money enough for this holy undertaking.

The pilgrims begin to arrive in Palestine some weeks before the Easter festival of the Greek Church. They come from Egypt, from all parts of Syria, from Armenia and Asia Minor, from Stamboul, from Roumelia, from the provinces of the Danube, and from all the Russias. Most of these people bring with them some articles of merchandise, but I myself believe (notwithstanding the common taunt against pilgrims) that they do this rather as a mode of paying the expenses of their journey, than from a spirit of mercenary speculation. They usually travel in families, for the women are of course more ardent than their husbands in undertaking these pious enterprises, and they take care to bring with them all their children, however young. They do this because the efficacy of the rites is quite independent of the age of the votary, and people whose careful mothers have obtained for them the benefit of the pilgrimage in early life, are saved from the expense and trouble of undertaking the journey at a later age.

The superior veneration so often excited by objects that are distant and unknown, shows, not perhaps the wrongheadedness of a man, but rather the transcendent power of his imagination. However this may be, and whether it is by mere obstinacy that they force their way through intervening distance, or whether they come by the winged strength of fancy, quite certainly the pilgrims who flock to Palestine from remote homes are the people most eager in the enterprise, and in number, too, they bear a very high proportion to the whole mass.

The great bulk of the pilgrims makes its way by sea to the port of Jaffa. A number of families will charter a vessel among them, all bringing their own provisions: these are of the simplest and cheapest kind. On board every vessel thus freighted, there is, I believe, a priest, who helps the people in their religious exercises, and tries (and fails)

to maintain something like order and harmony. The vessels employed in the service are usually Greek brigs or brigantines, and schooners, and the number of passengers stowed in them is almost always horribly excessive. The voyages are sadly protracted, not only by the land-seeking, storm-flying habits of the Greek seamen, but also by the endless schemes and speculations forever tempting them to touch at the nearest port. The voyage, too, must be made during winter, in order that Jerusalem may be reached some weeks before the Greek Easter.

When the pilgrims have landed at Jaffa they hire camels, horses, mules, or donkeys, and make their way as well as they can to the Holy City. The space fronting the Church of the Holy Sepulchre soon becomes a kind of bazaar, or rather, perhaps, reminds you of an English fair. On this spot the pilgrims display their merchandise; and there, too, the trading residents of the place offer their goods for sale. I have never, I think, seen elsewhere in Asia so much commercial animation as upon this square of ground by the church door: the "money-changers" seemed to be almost as brisk and lively as if they had been *within* the temple.

When I entered the church I found a Babel of worshipers. Greek, Roman, and Armenian priests were performing their different rites in various nooks and corners, and crowds of disciples were rushing about in all directions—some laughing and talking, some begging, but most of them going around in a regular and methodical way to kiss the sanctified spots, and speak the appointed syllables, and lay down the accustomed coin. If this kissing of the shrines had seemed as though it were done at the bidding of enthusiasm, or of any poor sentiment even feebly approaching to it, the sight would have been less odd to English eyes; but as it was, I felt shocked at the sight of grown men thus steadily and carefully embracing the sticks and the stones—not from love or from zeal (else God forbid that I should have blamed), but from a calm sense of duty; they seemed to be not "working out," but *transacting* the great business of salvation. . . .

A Protestant, familiar with the Holy Scriptures, but ignorant of tradition and the geography of modern Jerusalem, finds himself a good deal "mazed" when he first looks for the sacred sites. The Holy Sepulchre is not in a field without the walls, but in the midst, and in the best part of the town, under the roof of the great church which I have been talking about. It is a handsome tomb of oblong form, partly subterranean, and partly above ground, and closed in on all sides, except the one by which it is entered. You descend into the interior by a few steps, and there find an altar with burning tapers. This is the spot held in greater sanctity than any other in Jerusalem. When you have seen enough of it, you feel perhaps weary of the busy crowd, and inclined for a gallop; you ask your dragoman whether there will be time before sunset to send for horses and take a ride to Mount Calvary. Mount Calvary, signor?—*eccolo!* it is *upstairs—on the first floor.* In effect, you ascend, if I remember rightly, just thirteen steps, and then you are shown the now golden sockets in which the crosses of our Lord and the two thieves were fixed. All this is startling, but the truth is, that the city, having gathered around the Sepulchre (the main point of interest), has gradually crept northward, and thus in great measure are occasioned the many geographical surprises that puzzle the "Bible Christian."

The Church of the Holy Sepulchre comprises very compendiously almost all the spots associated with the closing career of our Lord. Just there, on our right, He stood and wept; by the pillar on your left He was scourged; on the spot, just before you, He was crowned with the crown of thorns—up there He was crucified, and down here He was buried. A locality is assigned to even the minutest event connected with the recorded history of our Saviour; even the spot where the cock crew when Peter denied his Master is ascertained and surrounded by the walls of an Armenian convent.

I went to see and to explore the Pyramids. Familiar to one from the days of early childhood are the forms of the Egyptian Pyramids, and now, as I approached them from

the banks of the Nile, I had no print, no picture before me, and yet the old shapes were there; there was no change; they were just as I had always known them. I straightened myself in my stirrups, and strove to persuade my understanding that this was real Egypt and that those angles which stood up between me and the West were of harder stuff, and more ancient than the paper pyramids of the green portfolio. Yet it was not till I came to the base of the great Pyramid that reality began to weigh upon my mind. Strange to say, the bigness of the distinct blocks of stones was the first sign by which I attained to feel the immensity of the whole pile. When I came, and trod, and touched with my hands, and climbed, in order that by climbing I might come to the top of one single stone, then, and almost suddenly, a cold sense and understanding of the Pyramid's enormity came down, overcasting my brain.

Now try to endure this homely, sick-nursish illustration of the effect produced upon one's mind by the mere vastness of the great Pyramid. When I was very young (between the ages, I believe, of three and five years), as I was then of delicate health, I was often in time of night the victim of a strange kind of mental oppression. I lay in my bed perfectly conscious, and with open eyes, but without power to speak or to move, and all the while my brain was oppressed to distraction by the presence of a single and abstract idea —the idea of solid immensity. It seemed to me in my agonies, that the horror of this visitation arose from its coming upon me without form or shape—that the close presence of the direst monster ever bred in hell would have been a thousand times more tolerable than that simple idea of solid size; my aching mind was fixed and riveted down upon the mere quality of vastness, vastness, vastness; and was not permitted to invest with it any particular object. If I could have done so, the torment would have ceased. When at last I was roused from this state of suffering, I could not, of course, in those days (knowing no verbal metaphysics, and no metaphysics at all, except by the dreadful experience of an abstract idea)—I could not, of course, find words to de-

scribe the nature of my sensations; and even now I cannot explain why it is that the forced contemplation of a mere quality, distinct from matter, should be so terrible. Well, now my eyes saw and knew, and my hands and my feet informed my understanding, that there was nothing at all abstract about the great Pyramid—it was a big triangle, sufficiently concrete, easy to see, and rough to the touch; it could not of course affect me with the peculiar sensation I have been talking of, but yet there was something akin to that old nightmare agony in the terrible completeness with which a mere mass of masonry could fill and load my mind.

And Time too; the remoteness of its origin, no less than the enormity of its proportions, screens an Egyptian pyramid from the easy and familiar contact of our modern minds. At its base the common earth ends, and all above is a world—one not created of God—not seeming to be made by men's hands, but rather the sheer giant-work of some old dismal age weighing down this younger planet.

Fine sayings! But the truth seems to be, after all, that the Pyramids are quite of this world; that they were piled up into the air for the realization of some kingly crotchets about immortality—some priestly longing for burial fees; and that as for the building—they were built like coral rocks by swarms of insects—by swarms of poor Egyptians, who were not only the abject tools and slaves of power, but who also ate onions for the reward of their immortal labors. The Pyramids are quite of this world.

I of course ascended to the summit of the great Pyramid, and also explored its chambers; but these I need not describe. The first time that I went to the Pyramids of Ghizeh, there was a number of Arabs hanging about in its neighborhood, and wanting to receive presents on various pretenses; their sheik was with them. There was also present an ill-looking fellow in soldier's uniform. This man on my departure claimed a reward, on the ground that he had maintained order and decorum amongst the Arabs. His claim was not considered valid by my dragoman, and was rejected accordingly. My donkey-boys afterward said they

had overheard this fellow propose to the sheik to put me to death whilst I was in the interior of the great Pyramid, and to share with him the booty. Fancy a struggle for life in one of those burial chambers, with acres and acres of solid masonry between oneself and the daylight! I felt exceedingly glad that I had not made the rascal a present.

I visited the very ancient Pyramids of Aboukir and Sakkara. There are many of these, differing the one from the other in shape as well as size; and it struck me that taken together they might be looked upon as showing the progress and perfection (such as it is) of pyramidical architecture. One of the pyramids at Sakkara is almost a rival for the full-grown monster at Ghizeh; others are scarcely more than vast heaps of brick and stone; and these last suggested to me the idea that, after all, the Pyramid is nothing more nor less than a variety of the sepulchral mound so common in most countries (including, I believe, Hindostan, from whence the Egyptians are supposed to have come). Men accustomed to raise these structures for their dead kings or conquerors would carry the usage with them in their migrations; but arriving in Egypt, and seeing the impossibility of finding earth sufficiently tenacious for a mound, they would approximate as nearly as might be to their ancient custom by raising up a round heap of stones, in short conical pyramids. Of these there are several at Sakkara, and the materials of some are thrown together without any order or regularity. The transition from this simple form to that of the square angular pyramid was easy and natural; and it seemed to me that the gradations through which the style passed from infancy up to its mature enormity could plainly be traced at Sakkara.

And near the Pyramids, more wondrous and more awful than all else in the land of Egypt, there sits the lonely Sphinx. Comely the creature is, but the comeliness is not of this world; the once worshiped beast is a deformity and a monster to this generation; and yet you can see that those lips, so thick and heavy, were fashioned according to some ancient mold of beauty—some mold of beauty now for-

gotten—forgotten because that Greece drew forth Cytherea from the flashing foam of the Ægean, and in her image created new forms of beauty, and made it a law among men that the short and proudly wreathed lip should stand for the sign and the main condition of loveliness through all generations to come. Yet still there lives on the race of those who were beautiful in the fashion of the elder world; and Christian girls of Coptic blood will look on you with the sad, serious gaze, and kiss your charitable hand with the big pouting lips of the very Sphinx.

Laugh and mock if you will at the worship of stone idols; but mark ye this, ye breakers of images, that in one regard the stone idol bears awful semblance of Deity—unchangefulness in the midst of change—the same seeming will and intent for ever and ever inexorable! Upon ancient dynasties of Ethiopian and Egyptian kings—upon Greek and Roman, upon Arab and Ottoman conquerors—upon Napoleon dreaming of an Eastern empire—upon battle and pestilence—upon the ceaseless misery of the Egyptian race—upon keen-eyed travelers—Herodotus yesterday, and Warburton to-day—upon all and more this unworldly Sphinx has watched, and watched like a Providence with the same earnest eyes, and the same sad, tranquil mien. And we, we shall die, and Islam will wither away; and the Englishman, straining far over to hold his loved India, will plant a firm foot on the banks of the Nile and sit in the seats of the Faithful, and still that sleepless rock will lie watching and watching the works of the new busy race, with those same sad, earnest eyes, and the same tranquil mien everlasting. You dare not mock the Sphinx.

AFRICA

Finding Livingstone

By HENRY M. STANLEY

WE push on rapidly, lest the news of our coming might reach the people of Bunder Ujiji before we come in sight, and are ready for them. We halt at a little brook, then ascend the long slope of a naked ridge, the very last of the myriads we have crossed. This alone prevents us from seeing the lake (Tanganyika) in all its vastness. We arrive at the summit, travel across and arrive at its western rim, and—pause, reader—the port of Ujiji is below us, embowered in the palms—only five hundred yards from us. At this grand moment we do not think of the hundreds of miles we have marched, of the hundreds of hills that we have ascended and descended, of the many forests we have traversed, of the jungles and thickets that annoyed us, of the fervid salt plains that blistered our feet, of the hot suns that scorched us, nor of the dangers and difficulties now happily surmounted. . . .

"Unfurl the flags and load your guns!" "Ay wallah, ay wallah bana!" respond the men eagerly. "One, two, three—fire!" A volley from nearly fifty guns roars like a salute from a battery of artillery. "Now, Kirangozi (guide), hold the white man's flag up high, and let the Zanzibar flag bring up the rear. And you must keep close together, and keep firing until we halt in the market-place, or before the white man's house. You have said to me often that you could smell the fish of the Tanganyika —I

can smell the fish of the Tanganyika now. There are fish, and beer, and a long rest waiting for you. MARCH!''

Before we had gone a hundred yards, our repeated volleys had the effect desired. We had awakened Ujiji to the knowledge that a caravan was coming, and the people were rushing up in hundreds to meet us. The mere sight of the flags informed every one immediately that we were a caravan; but the American flag borne aloft by gigantic Asmani (one of the porters or carriers), whose face was one vast smile on this day, rather staggered them at first. However, many of the people who now approached us remembered the flag. They had seen it float above the American consulate, and from the mast-head of many a ship in the harbor of Zanzibar, and they were soon heard welcoming the beautiful flag with cries of ''Bindera, Kisungu!''—a white man's flag. ''Bindera Merikani!''—the American flag.

Then we were surrounded by them; by Wajiji, Wanyamwezi, Wangwana, Warundi, Waguhha, Wamanyema, and Arabs, and were almost deafened with the shouts of ''Yambo, yambo, bana! Yambo bana! Yambo bana!'' To all and each of my men the welcome was given. We were now about three hundred yards from the village of Ujiji, and the crowds are dense about me. Suddenly I hear a voice on my right say, ''Good-morning, sir!'' Startled at hearing this greeting in the midst of such a crowd of black people, I turn sharply around in search of the man, and see him at my side, with the blackest of faces, but animated and joyous—a man dressed in a long white shirt, with a turban of American sheeting around his woolly head, and I ask, ''Who the mischief are you?'' ''I am Susi, the servant of Dr. Livingstone,'' said he, smiling, and showing a gleaming row of teeth. ''What! Is Dr. Livingstone here?'' ''Yes, sir.'' ''In this village?'' ''Yes, sir.'' ''Are you sure?'' ''Sure, sure, sir. Why, I leave him just now.'' ''Good-morning, sir,'' said another voice. ''Hallo,'' said I, ''is this another one?'' ''Yes, sir.'' ''Well, what is your name?'' ''My name is Chumah, sir.''

"And is the doctor well?" "Not very well, sir." "Where has he been so long?" "In Manyuema." "Now, you Susi, run and tell the doctor I am coming." "Yes, sir;" and off he darted like a madman. . . .

Soon Susi came running back, and asked me my name; he told the doctor I was coming, but the doctor was too surprised to believe him, and when the doctor asked him my name, Susi was rather staggered.

But, during Susi's absence, the news had been conveyed to the doctor that it was surely a white man that was coming, whose guns were firing and whose flag could be seen; and the great Arab magnates of Ujiji—Mohammed bin Sali, Sayd bin Majid, Abid bin Suliman, Mohammed bin Gharib, and others—had gathered together before the doctor's house, and the doctor had come out from his veranda to discuss the matter and await my arrival.

In the meantime, the head of the expedition had halted, and the Kirangozi was out of the ranks, holding his flag aloft, and Selim (the interpreter) said to me: "I see the doctor, sir. Oh, what an old man! He has got a white beard." And I—what would I not have given for a bit of friendly wilderness, where, unseen, I might vent my joy in some mad freak, such as idiotically biting my hand, turning a somersault, or slashing at trees, in order to allay those excited feelings that were well-nigh uncontrollable. My heart beats fast, but I must not let my face betray my emotions, lest it should detract from the dignity of a white man appearing under such extraordinary circumstances.

So I did that which I thought was the most dignified. I pushed back the crowds, and passing from the rear, walked down a living avenue of people, until I came in front of the semicircle of Arabs, in the front of which stood the white man with the gray beard. As I advanced slowly toward him I noticed that he was pale, looked wearied, wore a bluish cap with a faded gold band round it, had on a red-sleeved waistcoat, and a pair of gray tweed trousers. I would have run to him, only I was a coward in the presence of such a mob—would have embraced him, only, he being

an Englishman, I did not know how he would receive me; so I did what cowardice and false pride suggested was the best thing—walked deliberately to him, took off my hat, and said: "Dr. Livingstone, I presume?" "Yes," said he, with a kind smile, lifting his hat slightly. I replace my hat on my head, and he puts on his cap, and we both grasp hands, and then I say aloud: "I thank God, doctor, I have been permitted to see you." He answered: "I feel thankful that I am here to welcome you." I turn to the Arabs, take off my hat to them in response to the saluting chorus of "Yambos" I receive, and the doctor introduces them to me by name. Then, oblivious of the crowds, oblivious of the men who shared with me my dangers, we—Livingstone and I—turn our faces toward his tembe (or hut). He points to the veranda, or rather mud platform under the broad, overhanging eaves; he points to his own particular seat, which I see his age and experience in Africa has suggested—namely, a straw mat, with a goatskin over it, and another skin nailed against the wall to protect his back from contact with the cold mud. I protest against taking this seat, which so much more befits him than me, but the doctor will not yield—I must take it.

We are seated, the doctor and I, with our backs to the wall. The Arabs take seats on our left. More than a thousand natives are in our front, filling the whole square densely, indulging their curiosity, and discussing the fact of two white men meeting at Ujiji—one just come from Manuyema, in the west; the other from Unyanembe in the east.

AFRICA

Up the Mountains of the Moon

By HENRY M. STANLEY

IN his lecture, "Through the Great Forest," Mr. Stanley said, I propose to take you through the great forest up to the Mountains of the Moon, around the great lakes and across Africa. We traveled over six thousand miles. The time occupied was nine hundred and eighty-seven days. The first section, of about one thousand miles, was along an unknown country by steamer up the Aruwimi River, to a place called Yambuya. The navigation was interrupted by rapids. On foot next for one hundred and sixty days we went through one unbroken forest. That journey was not through poetic glades, with here and there thrown in a bit of mossy dell, with little or no undergrowth, and free access and an open view into sylvan wilds. You may remember your experiences of last summer when you took an excursion into the woods. There you found a poetic seclusion, a graceful disorder, mossy grounds, trees of familiar kinds, springy turf, bits of picturesque skies, and the sun shedding softened streams of light upon tree and turf. Ah! the African forest furnishes no such picturesque sights or pleasant glades.

Language is too poor to describe it. First, think of the tropics and a climate of humidity and the heat of perpetual summer. You feel, as you enter into this unknown region, the robustness of vegetation. There is a still, warm vapor in suffocating volumes. First, you dispense with your upper

garments, and then you want to get rid of the rest. The gloom is so great that you can compare it only to the twilight of evening. You see the leafage rising up black and green; impenetrable clumps of trees, some of them reaching a height of two hundred and fifty feet. There is no symmetry, grace or softness, but all is wild, uncouth, and awful. At every step you see masses of bewildering undergrowths, a wonderful variety of plants. There is an absence of any sense of decay; rather the sense of the general healthfulness of the plants, an enduring youth, exhaustless wonders.

There is no longer any energy among us. We behold everlasting greenness, eternal vitality and fertility. Above all is a protecting, impenetrable canopy. Sacred trees, with leafy crowns, tower above us. African mahogany, the unyielding iron-wood, the butternut-tree, and other varieties too numerous to mention, all united in closest embrace, darken the life below till it is suggestive of mystery and awe. As we march silently, slowly, and painfully on, the forest changes its aspect, and we note the labors of forgotten tribes and come to swampy grounds. One day our march is very slow through masses of forest wilderness. On the next day we go through a more open section; on the following day through frowning depths and over ground strewn with dead leaves, worm-eaten trunks or dried branches. But always and above all tower the primeval woods, the deep shadows unbroken save by the flashes of lightning.

On some days the march has to be prolonged beyond the usual hour for halting that has been fixed upon, because of the difficulty of choosing a ground fit for a camp. For we bear with us tons of perishable goods that have to be protected from the floods of rain. But at last a suitable spot is found. The whistle is sounded and the loaded files come up, and one by one they deposit their burdens in due order. Then, when the tents are erected, the camp resounds with the sound of voices. Some men with axes trim the poles of the tents or cut fuel. Some with knives peel the saplings to utilize the bark for bedding. Some dig holes in the ground for the tent-poles.

SIR HENRY M. STANLEY.

In about two hours a little town will be seen, and a hundred fires will blaze, and a hundred pots will be sending up clouds of savory steam. The camp is animated and resounds with chatter, all the louder because confined by the four sides of our forest home. After the guards are set around the camp we feel safe from the surprises of the cannibals, and those who wish are free to wander away. At such a time I have been sensible of the utter poverty of words to describe my surroundings. It is not a time for poetic brooding, but one after another the senses yield to the charm of seclusion. Then I behold a magnificent forest in listening attitude, a great gloom, trees eloquent of antiquity and of venerable brotherhood. I marvel at the age of these giants. Since the period when the nuts dropped from the trees and took root, what generations have passed! generation after generation, dynasty after dynasty, empire after empire, one national period after another—and the trees grow taller and taller through the centuries, yearly extending in growth, extending in limb, and rising steadily, invincibly upward, indifferent whether their crested tops are illuminated by sunshine or dripped with rain, or are tossed by the raging tornado of the tropics. That old patriarch yonder, with massive and wrinkled bark, was probably born a thousand years before the siege of Troy. That head you see above you was a shrub in the days of Herod the Great. Even the palm by the river bank, which seems so utterly out of place among the forest kings, probably sprouted first when Columbus started his course across the Atlantic.

They are brimming over with vitality. We feel that their vegetable life is incomparable with our own. They stand and have stood while the centuries rolled by, mute and rigid in the gloaming; they are there to-day in enormous multitudes. The sun shines on their tops with utmost fervor. The mist floods around them with grayish clouds. They will brave the elements in the future with the same peaceful, proud endurance as they have done in the past. The forest there faithfully represents human life in pantomime—that struggle for space—selfish indifference to others

may be found there as with us. When the topmost bough is shattered by lightning, another fed by the air and light springs up triumphantly to usurp its place. You can see with what greed others hasten to occupy the opening made by the uniform height and equal growth.

I found also that they are subject to diseases, as is humanity. Countless parasites are around the stems and strangle their growth. The ants eat into their boles, and great branches are pushed aside by the elephants rubbing their sides against them. You will see among them large tumors on their stems. Others falling into decay with age are bleached white by death. The ground underneath consists of the dust of others which are gone. It is carpeted with their dead leaves and strewn with their broken limbs. Scarcely an hour passes but in your neighborhood a tree falls. There is a sound as of an explosion and a shock that shakes the earth, and a branch comes tumbling down with a startling crash. A twig snaps or a leaf falls every second of time. But with this death there is life, for seeds also fall, and as often as a tree dies, another has sprouted, or with the fall of a leaf another has sprouted.

During a year of wanderings we noted five hundred and sixty hours of rain, which would be about one hour of rain for every fifteen of dry weather during twelve months. How much sunshine there was we would not say. It seemed to us there was only one hour of sun brightness to every hour of night or fog or gloom. We could tell only from the heat in the forests that the sun was out. We could only feel its dry fervor in the clearings, but the effect of this supermoisture is the exceeding vegetation. The trees from summit to branch are clothed with verdure and wound around by enormous parasites and climbers. The grander trees bear the heaviest and thickest species, which run from fourteen to sixteen inches in diameter. Those of the largest size reach fourteen hundred feet, and they continue their serpentine twisting from one limb to another, and finally hang suspended thirty or forty feet above, like immense anacondas, swinging with every gust, or they ascend to the

branches of other trees until they are lost in the depth above. There are hundreds of them. They are seen in a great net-work, web-like formation. There is not a sapling or tree, from the infant of one year to the holy patriarch of forty centuries, but is infested with both vegetable and animal parasites. Thin vines and serpent-like creepers all swing solemnly hither and thither under the influence of a strong wind, with countless millions of leaves resting on the great limbs of the trees, embracing the rigid branches, creaking and grinding.

You can hardly realize the scene of desolation that is found in the sepulchral gloom of the forests. But when the storm king is in the air above, and every tree seems starting from its sepulchral stillness in a mad dance, and there is a mad massing and warring and rushing through the foliage shades, and the woods bow their heads in agonized grief, try however you may, you cannot help sympathizing with the scene. It is awful and horrible to hear all these sounds in the pitch-black night, when the tornado descends on the forests, and the elements are accompanied with all their terrors, with blinding brands of lightning and the cannonade of the thunder, when the whole camp is a blaze of blinding light. It is far more frightful when the rain pours over the desolate scene in drowning showers. You can understand now what effect such experiences of tempest and rain and darkness had upon the minds of our people, who knew not where this endless march was leading, as the days grew into weeks and the weeks into long months, and not a soul could enlighten them as to the possible limits of this demon world—all this added to continuous pain from hunger, misery and sickness, and the dull pangs of sorrow as they tossed their dead companions into the dark river, in the absence of all hope in the future. Gaunt famine smote them dead by the scores; their limbs were ravaged by rabid ulcers, the stagnant atmosphere poisoning them with its breath, ants and ticks creeping over their bodies, fierce savages jumping upon them with dagger or spears, while they feebly crawled after the caravan; ruthless pigmies lying behind trees shoot-

ing their barbed arrows into their bodies; and cannibals attacking them as they gathered over their evening fire. Death cut our people off with revolting treachery, and sudden as lightning stroke.

Finally, after one hundred and sixty days of marching, we emerged from the forest. Then our eyes danced with rapture, for we beheld fresh young grass spreading out into flowery fields and pastures; and then beyond round and picturesquely molded hills. Such a sight we hailed with shouts of praise and loud thanksgivings and murmurs of worship according to our respective faiths. The delicious grass, the warbling of birds, this summer loveliness of the land and the warm life and beauteous earth reposing in peace were sublime. Our men had dreams of joy and they called it heaven. Its length was six hundred and twenty English miles from north to south and from west to east five hundred and twenty miles. It comprised 320,000 square miles, the whole equal to 400,000 square miles.

In the beginning of 1886 the Arab slave-traders had not penetrated very far into this region. The Arabs were for some time deterred from making any serious effort to push into this forest, but the increasing price of ivory and the scarcity of it subsequently inspired them with greater efforts. In May, 1887, they had gained a footing in Etura. Separating from one another, they built three stations down the Etura, about a hundred miles apart, one at the Leda, forming the apex of a triangle, the base line of which was fifty miles away. They then began killing the aborigines, and appropriating or looting whatever property they found. Within five months they cut a swath two hundred and twenty-seven miles long, and in width about one hundred and eighty English miles. Not one village had been left standing. Their plantain groves had become so many jungles. The aborigines had either been destroyed, or were hidden in the darkest recesses of the forests. This is the reason why in 1887 our expedition suffered so terribly from hunger. Were you enabled to take a bird's-eye view of the

forests, the native clearings would have appeared like so many circular bits of pale green.

There were no tracks, and we possessed only one steel boat for the river, and part of the journey, therefore, had to be made by forcing a way through the bush. If that was too thick we scattered through the underbrush, but we had bill-hook and cutter in constant exercise. The first month in the bush we progressed very slowly. When finally, after many months' labors, we reached a track, our pace was increased to one and three-quarter miles an hour.

As the column stretched in file over a considerable length of ground the pioneers had to slash away a broad blaze on a tree every few yards. It was most difficult to distinguish the track. But by the time the whole of the column had passed over it the trail was pretty clear. Some days, however, when I would be leading a river party, the pioneers would lose all trace of it. They would leave the river and relying too much on their knowledge of woodland, try to cut a straight course. Thus they frequently lost their way, and for hours the caravan would be wandering in the woods while the river party would be anxiously waiting for them. On one occasion the parties were separated six days.

As we drew nearer the eastern limits the nature of our difficulties changed. We followed native paths. Then the voices of the foremost men would be heard bawling out the character of their troubles, one by one: "Skewers below," "Ants—red ants on the march," "A tangling root," "'Ware skewers," "Mushy mud, with no bottom," "Wasps." These warnings, while they served to prevent us from falling into pitfalls, retarded the march.

If I were to enumerate the names of the various tribes whose territories we traversed there would be general hilarity, I fear, in an American audience. The inhabitants of the forest are divided into big people and little people. The taller men are those who own clearings in the forest. The pigmies are unsettled and restless little nomads, who slide about through the woods, and whose temporary camps are generally found two or three miles outside of the banana

plantations. The first are very like other Africans, but much browner than the dwellers in the plains, probably from living so much in the shade. Each tribe has its distinguishing marks, tattooings of some figure or another on the forehead or on the cheeks or chins. Some shave their heads; some wear their hair long or in ringlets. There is no elaborate hair-dressing in the forest, as lower down along the Congo. Their ornaments consist of crocodile, monkey or human teeth, strung in necklets and anklets and bracelets. Their dress is a clout of dark cloth, a strip four feet long. For head-wear these people have a head-piece of basket work adorned with a parrot's red tail-feathers. Their weapons are spears, bows and arrows, broad knives, and sometimes a battle-ax.

These are they who sometimes make great clearings in the woods, and in the midst of a confusion of fallen trees build compact villages. Outside the villages there is a tangle of brushwood, half hidden by plantain groves. The villages swarm with goats and fowls, which now and again furnish the people with food. The natives are addicted to cannibalism, but it must not be supposed that they feed on their own relatives or tribe. Neither is a human victim always easy to secure. The tribes are too far apart; but if a neighboring community, ten or a dozen miles off, advances, there may possibly be an accident, when a body may be secured. I once witnessed the preparations for a cannibal feast. Our men approached an Irwangas village. I fired a shot to warn the chief that we were friendly, and it happened to frighten a party of natives preparing a victim for their repast. In a few seconds our boats were at the bank of the river, and we saw the body of a woman who had been speared in the throat and then washed. The black pots, the bananas were all there, and in a short time everything would have been ready. We found afterward that the woman had been sick and had been left by the Arabs.

We had also a Manuema boy who slipped into the bush to evade the rear guard, after a caravan had passed. He

advanced slowly toward the camp and had almost reached it when he was sighted by natives and slain almost at the same time that a party of companions was proceeding to his assistance. Finding the body in the path, they carried it into the woods, and covered it lightly with leaves, with the intention of returning and burying it. The natives, who had been close observers of what had been done, came up and took it off. In the morning the Manuemas found only a few bones.

During many months of marching in the forest we captured hundreds of large and small natives. They were very useful in their own districts, giving information about the tribes, and showing paths to banana plantations, but once beyond their territory they were of no earthly use. So they were permitted to return to their homes, though in many instances they did not want to be released. My observation and experience led me to the conclusion that morally, the forest natives are the lowest of the human race. They have no idea of a God, and nothing approaching our soft sensibilities. Their gratitude is so short-lived that it might be compared to that of a fierce bull-dog restrained from throttling you only by devouring a piece of beef just thrown to it. What a number of ghastly death scenes I could describe resulting from the cruel persistency and devilish malice of these savages. At the same time many of our men in the presence of such dangers exhibited great carelessness. White men displayed more caution, but it was almost impossible to get the others to exercise their faculties of sight, hearing, and judgment. Had the savages generally been as artful as the pigmies we should all have been lost. But, fortunately, they were themselves thoughtless, although cruel enough to work any mischief upon us.

Our scouts frequently came across newly-formed pigmy camps, and after awhile they learned the art of stalking the vicious little creatures. The first one we thus got hold of was a plump little queen of a pigmy tribe. Around her neck were several polished iron collars with long projecting horns at the end, and down her breast hung curiously made

native chains. Around her arms were several rings, and her ankles were protected by scores of rings, so close together that they resembled a compact band. Around her waist was a breech-cloth. She must have been about eighteen years old, but she was as well developed as a white woman of twenty-five or twenty-six. Her feet were beautifully formed, the instep arched, the hands small, the fingers slender, and the nails filbert-shaped. The face was broad and round, the lips were full, and the large, black eyes, like those of a young gazelle. The face was singularly impressive, but the eyes were most expressive and seemed to say: "I am much too pretty to be hurt and I very well know what I am worth." The tender treatment that she received reassured her. She was ultimately consigned to the care of the surgeon, whose gentle manner won her from all thoughts of flight. After a while she became an intelligent cook, and a trustworthy servant, and she always bore herself most modestly.

In October, 1888, we suddenly pounced on a family of dwarfs, peeling bananas, and succeeded in capturing a full-grown adult and his sister, or wife. Before the pair could recover their faculties, they were led to the center of our camp, and hundreds of great, burly men thronged to see the strangers. We had among us some tall Soudanese, ranging from six feet to six feet four in height. I observed that the head of the pigmy man reached to about the waist-belts of these Soudanese. Both the man and woman were considerably agitated, but while they doubted, and anxiously wondered, what was to be their fate, my mind recurred to the described scene that took place twenty-five centuries ago when the five young Nassamonian explorers were captured by a band of dwarfs and taken through the Nigritian villages. How I wished that I could extract from the representative of this old people some of their traditions. Before a Phœnician bark ever sailed to Britain these little people were ranging these illimitable forests which stretch westward from the Moon Mountains. In all old maps you

will see "pigmies" printed side by side in bold letters, with the Mountains of the Moon.

But the little man who was now the cynosure of the camp, with his grotesque dignity of manhood, his cap of basket-work, his noble amplitude of abdomen and narrow chest, had no conception of the respect I entertained for him as the scion of a most ancient ancestry, or surely he would never have trembled for his fate. But in a short time we succeeded in relieving him of his fears by gently chucking him under the chin, and administering a friendly slap on the back. His companion, observing how he was treated, also recovered from her fright. Gaining confidence, the little man, as though to repay our kindness, informed us, by the most voluble of sign-language, that there was abundance of food two days off; that the river we were in search of was only four days off; that he knew where bananas grew as big as logs compared with which the bananas he had been eating when captured were simply contemptibly small. Personally, I am of opinion that this particular pigmy would have made a very good actor, and that in the art of lying it would be difficult to give him points.

A few days after this capture another group of pigmies was secured. Among them was a shrewish old woman, and a lad so shy that he could not be made to speak. But the old woman talked enough for a whole tribe and kept up an incessant scolding from morning till night, and exhibited a consummate mastery of pigmy cuss-words. Despite her age she was remarkably strong and nimble, and always carried on her back a hamper. Into this her captor would stow away his pots and kettles and other equipments until she became a veritable camel of the forest. When I discovered this, I came to her relief and threw out the contents of her hamper. I received for my pains a rattling expression of gratitude which sounded very much like swear-words. As for the shy boy, he got over his shyness and became a pet of the officer who had surprised him. His intelligence and industry made him most valuable, far superior to the average

of white servants. We came in time to regard these pigmies as indispensable, and some of them would certainly have been taken with us back to Europe, but after they got out of the forest the changed conditions and the difference in climate proved too much for them. Their little legs could not stand the long marches, and one after another they collapsed.

The next most interesting discovery we made was that of the long-lost Mountains of the Moon. In my book, "Darkest Africa," I have illustrated with small maps our knowledge of Africa derived from the ancients. In these it is clearly shown that ivory-hunters and slave-traders had reached that region in times past. Information as to it varied. The last traveler there, as now, was regarded as the best informed. This is why the great lakes of the interior and the Mountains of the Moon shifted every hundred years or so ten degrees north or south of the Equator. It was in December, 1887, that we got a glimpse of the twin cones of Ruwenzori. There are many, doubtless, like myself, who, while gazing upon any ancient work, be it an Egyptian Pyramid, or Sphinx, be it an Athenian Parthenon, Palmyrene sun temple, Persepolitan palace, or even an old English castle, will readily confess to feeling a peculiar emotion at the sight. The venerableness of it, which time only can give, its associations with men long gathered to their fathers, the builders and inhabiters now quite forgotten, appeal to a certain sympathy in the living. For its history there is a vague yearning; its age awakens something like exultation that we little mortals can build such time-defying structures. But more powerful and higher is that emotion which is roused at the sight of a hoary old mountain like this of Ruwenzori, which we know to be countless thousands of years old. When we think how long it required the melted snow to carve out these ravines, hundreds of fathoms deep, through the rocky cone of the range, or we consider the ages required to spread out the débris from its sides and bosom to cover the Semliki Valley and the Nyanza plains, we are struck dumb at the immeasurable-

ness of the interval between that age when Ruwenzori rose aloft into being and now; we become possessed with a wholesome awe, and can but feel a cheerful faith that it was good for us to have seen it.

Another emotion is that inspired by the thought that in one of the darkest corners of the earth, shrouded by perpetual mist, brooding under the eternal storm-clouds, surrounded by darkness and mystery, there has been hidden to this day a giant among mountains, the melting snow of whose tops has been for some fifty centuries most vital to the peoples of Egypt. Imagine to what a god the reverently inclined primal nations would have exalted this mountain, which from such a far-away region as this contributed so copiously to their beneficent and sacred Nile. And this thought of the beneficent Nile brings on another. In fancy we look down along that crooked silver vein to where it disports and spreads out to infuse new life to Egypt near the Pyramids, some 4000 miles away, where we behold populous swarms of men—Arabs, Copts, Fellahs, Negroes, Turks, Greeks, Italians, Frenchmen, English, Germans, and Americans—bustling, jostling, or lounging; and we feel a pardonable pride in being able to inform them for the first time that much of the sweet water they drink and whose virtues they so often exalt, issues from the deep and extensive snowbeds of Ruwenzori or Ruwenjura—"the Cloud-King."

These brief—too brief—views of the superb Rain-Creator or Cloud-King, as the Wakonju fondly termed their mist-shrouded mountains, fill the gazer with a feeling as of a glimpse of celestial splendor. While it lasted, I observed the rapt faces of whites and blacks set fixed and uplifted in speechless wonder toward that upper region of cold brightness and perfect peace, so high above mortal reach, so tranquil and restful, of such immaculate and stainless purity, that thought and desire of expression were altogether too deep for utterance. What stranger contrast could there be than our own nether world of torrid temperature, eternally green, sappy plants, and never-fading luxuriance and verdure, with its savagery and war-alarms, and deep stains of

blood-red sin, to that lofty mountain king, clad in its pure white raiment of snow, surrounded by myriads of dark mountains, low as bending worshipers before the throne of a monarch, on whose cold, white face was inscribed "Infinity and Everlasting." These moments of supreme feeling are memorable for the utter abstraction of the mind from all that is sordid and ignoble, and its utter absorption in the presence of unreachable loftiness, indescribable majesty, constraining it not only reverentially to admire, but to adore in silence, the image of the Eternal. Never can a man be so fit for Heaven as during such moments, for however scornful and insolent he may have been at other times, he now has become as a little child, filled with wonder and reverence before what he has conceived to be sublime and Divine. We had been strangers for many months to the indulgence of any thought of this character. Our senses, between the hours of sleeping and waking, had been occupied by the imperious and imminent necessities of each hour, which required unrelaxing vigilance and forethought. It is true we had been touched with the view from the mount called Pisgah of that universal extent of forest, spreading out on all sides but one, to many hundreds of miles; we had been elated into hysteria when, after five months' immurement in the depths of forest wilds, we once again trod upon green grass and enjoyed open and unlimited views of our surroundings—luxuriant vales, varying hill-forms on all sides, rolling plains, over which the long spring grass seemed to race and leap in gladness before the cooling gale; we had admired the broad sweep and the silvered face of Lake Albert, and enjoyed a period of intense rejoicing when we knew we had reached, after infinite trials, the bourne and limit of our journeyings; but the desire and involuntary act of worship were never provoked, nor the emotions stirred so deeply, as when we suddenly looked up and beheld the skyey crests and snowy breasts of Ruwenzori uplifted into an inaccessible altitude, so like what our conceptions might be of a celestial castle, with dominating battlement, and leagues upon leagues of unscalable walls.

Revisiting the Lake Albert region at later periods we found that the snow-capped peaks had an exasperating habit of disappearing from view, and it was only in May of 1889 that I finally solved the mystery. Rolling clouds and vapors sometimes blot them out. This is why the natives call them "Ruwenzori," which means "the Cloud-King."

The discovery of the Snow Mountains led to two more discoveries—that of the Albert Edward Nyanza, and the head-waters of the Albertine Nile ; and the confused information given by the priests of Isis in olden times to Egyptian and Greek geographers, furnished by the ivory traders and slave-raiders of old, has now been made perfectly clear in all its important details.

Day after day we marched, marking the features of this splendid primeval world, revealed for the first time. Now and then we caught glimpses of a multitude of precipitous cliffs which towered some 15,000 feet above. As we approached Albert Edward, we emerged from the forest, and a vast plain stretched before us, covered by immense fields of corn and sugar-cane. The natives, black but amiable, collected about us, and sought our protection from incursive tribes. They volunteered to be our guides, and led us up a vast grassy promontory, where for a day we reveled in pure, cold air, and the next day they took us down to the lake where we tasted the tropics once more.

From the eastern shores of Lake Albert two days climbing brought us to a beautiful region. The people here were divided into two tribes, but they were derived, apparently, from a common origin. They were a fine-featured race, and the men grew very tall. They lived mainly upon milk and sugar-cane, and, unfortunately for their future civilization, they are massed into nations that are ruled by despotic kings.

From this country we struck the eastern end of Victoria Nyanza, and by traveling along the shore we discovered a new addition to this lake of 26,900 square miles. We struck the region during its dry season. The grass was sere; chilly winds blew over the uplands; a cold mist frequently obscured the face of the country, and a heavy,

leaden sky seemed to bear down upon us in a searching cold. Our half-naked people shivered, and one day five fell dead in their tracks as though they were shot. They would all have perished had not the officer commanding the rear guard bolted, and made great bonfires.

During our march to the sea, it had gradually dawned upon us that there was intense political rivalry between England and Germany in Africa. But as our expedition had been solely to relieve Emin, we flattered ourselves that we had nothing to do with these dissensions.

Emin was a German, and we accepted German hospitality as a proof of their good-will. We knew Emin was pliable and yielding. We supposed his gratitude was not very deep. But we thought that nothing could rupture the good feeling that had hitherto existed between us. But the accident at Bagamoya, the first evening after reaching the sea, and being embraced by his countrymen, was wholly unexpected, and it gave the Germans on the East Coast a fair opportunity. We had abundant proof afterward how beautifully the Germans understood Emin's character. Frenchmen and Italians, perhaps, would have performed their parts far more efficiently without advertising the means employed.

Emin at the banquet in our honor was joyously grateful to each member of our expedition. He embraced Stairs and Nelson and Jephson, and flung himself on the neck of Parke; stood between Wissman and myself uttering gayly his happy feelings, and then went away and fell over the balcony to the dismay of the company. He was taken to the hospital in an unconscious state. On his recovering consciousness we had a kindly parting, and then the operations of his countrymen began. First, Dr. Parke, who had volunteered to attend the sufferer, was made to feel that his presence was irksome. Servants became careless; the food was stinted. If he went to the officers' mess-table, the German officers continued to show their strong disapproval of his presence. Then Dr. Parke fell ill of a fever and was conveyed to Zanzibar almost dying. Our letters to Emin were

unanswered. If we expressed a desire to visit him at Bagamoya, at once a bulletin came out with a story of his relapse. We tried it three times with the same result. The play deepened in interest and the conclusion was darkly hinted.

Having succeeded in relieving himself from obligation to us, our acquaintance was renounced. This incivility was presently fanned by his countrymen into a hot hostility. On coming out of the hospital Emin published broadcast through Zanzibar the fact that he had severed himself from us, and wrote letters to Germany to the same effect, which his delighted friends made use of. He next sought to quarrel with the Egyptian Government. He cabled to Cairo for a small credit at Zanzibar. Sir Evelyn Baring kindly telegraphed back that the British Consul at Zanzibar would honor the credit. Emin construed this as an insult—the idea that he, Governor-General of the Equatorial Province, should receive drafts through an English consul-general! To his old officers and generals, Egyptian and Soudanese, he wrote frankly that he would have nothing to do with them, and declined to pay their accounts, so these soldiers, who had been with him fourteen years, were compelled to wait six months before getting any money. To General Casati, with whom he had lived eight years like a brother, he turned the cold shoulder. For a whole month he seemed to be negotiating with the British East African Company for employment. Then suddenly he turned and took employment with the Germans. The Germans had triumphed, according to their view. They certainly had Emin's nature aright, but I think they would have succeeded better had they managed to leave the victim of their political aspirations with some portion of the common virtues, and without exposing him to the contempt of others not quite so interested in their politics.

Dr. Peters and other Germans had raided a broad track through a territory under the guise of assisting Emin. He reached Uganda and made treaties there. At the same time the poor Pasha, breathing fury against civilization, was re-

turning to the interior to annex the whole of Central Africa for Germany. Meantime seeing pretty clearly how this was tending, I began that series of speeches in England which ended in stimulating greater attention in Britain to Africa. A friendly agreement was concluded between Great Britain and Germany wherein hard and fast boundaries were fixed between the possessions of the two powers. Both nations expressed themselves as satisfied with the agreement, but I fear that Dr. Peters, homeward bound with his pockets full of treaties, and Emin pressing forward bent on large annexations and the Germans of East Africa whose impetuous policy had been the cause of all this, were but little pleased.

AFRICA

The Pyramids

By EDWARD D. CLARKE

WE were roused as soon as the sun dawned by Antony, our faithful Greek servant and interpreter, with the intelligence that the Pyramids were in view. We hastened from the cabin; and never will the impression made by their appearance be obliterated. By reflecting the sun's rays, they appear as white as snow, and of such surprising magnitude, that nothing we had previously conceived in our imagination had prepared us for the spectacle we beheld. The sight instantly convinced us that no power of description, no delineation, can convey ideas adequate to the effect produced in viewing these stupendous monuments. The formality of their construction is lost in their prodigious magnitude; the mind, elevated by wonder, feels at once the force of an axiom, which, however disputed, experience confirms—that in vastness, whatsoever be its nature, there dwells sublimity. Another proof of their indescribable power is, that no one ever approached them under other emotions than those of terror, which is another principal source of the sublime. In certain instances of irritable feeling, this impression of awe and fear has been so great as to cause pain rather than pleasure; hence, perhaps, have originated descriptions of the Pyramids which represent them as deformed and gloomy masses, without taste or beauty. Persons who have derived no satisfaction from the contemplation of them, may not have been conscious that the uneasiness they ex-

perienced was a result of their own sensibility. Others have acknowledged ideas widely different, excited by every wonderful circumstance of character and of situation—ideas of duration almost endless, of power inconceivable, of majesty supreme, of solitude most awful, of grandeur, of desolation, and of repose.

Upon August 23, 1802, we set out for the Pyramids, the inundation enabling us to approach within less than a mile of the larger pyramid in our djerm or boat. Messrs. Hammer and Hamilton accompanied us. We arrived at Djiza at daybreak, and called upon some English officers, who wished to join our party upon this occasion. From Djiza our approach to the Pyramids was through a swampy country, by means of a narrow canal, which, however, was deep enough; and we arrived without any obstacle at nine o'clock at the bottom of a sandy slope leading up to the principal pyramid. Some Bedouin Arabs, who had assembled to receive us upon our landing, were much amused by the eagerness excited in our whole party to prove who should first set his foot upon the summit of this artificial mountain. With what amazement did we survey the vast surface that was presented to us when we arrived at this stupendous monument, which seemed to reach the clouds. Here and there appeared some Arab guides upon the immense masses above us, like so many pigmies, waiting to show the way to the summit. Now and then we thought we heard voices, and listened; but it was the wind in powerful gusts sweeping the immense ranges of stone. Already some of our party had begun the ascent, and were pausing at the tremendous depth which they saw below. One of our military companions, after having surmounted the most difficult part of the undertaking, became giddy in consequence of looking down from the elevation he had attained; and being compelled to abandon the project, he hired an Arab to assist him in effecting his descent. The rest of us, more accustomed to the business of climbing heights, with many a halt for respiration, and many an exclamation of wonder, pursued our way toward the summit. The mode

of ascent has been frequently described; and yet, from the questions which are often proposed to travelers, it does not appear to be generally understood. The reader may imagine himself to be upon a staircase, every step of which, to a man of middle stature, is nearly breast-high, and the breadth of each step is equal to its height, consequently the footing is secure; and although a retrospect in going up be sometimes fearful to persons unaccustomed to look down from any considerable elevation, yet there is little danger of falling. In some places, indeed, where the stones are decayed, caution may be required, and an Arab guide is always necessary to avoid a total interruption; but upon the whole the means of ascent are such that almost every one may acomplish it. Our progress was impeded by other causes. We carried with us a few instruments, such as our boat-compass, a thermometer, a telescope, etc.; these could not be trusted in the hands of the Arabs, and they were liable to be broken every instant. At length we reached the topmost tier, to the great delight and satisfaction of all the party. Here we found a platform thirty-two feet square, consisting of nine large stones, each of which might weigh about a ton, although they are much inferior in size to some of the stones used in the construction of this pyramid. Travelers of all ages and of various nations have here inscribed their names. Some are written in Greek, many in French, a few in Arabic, one or two in English, and others in Latin. We were as desirous as our predecessors to leave a memorial of our arrival; it seemed to be a tribute of thankfulness due for the success of our undertaking; and presently every one of our party was seen busied in adding the inscription of his name.

Upon this area, which looks like a point when seen from Cairo or from the Nile, it is extraordinary that none of those numerous hermits fixed their abode who retired to the tops of columns and to almost inaccessible solitudes upon the pinnacles of the highest rocks. It offers a much more convenient and secure retreat than was selected by an ascetic who pitched his residence upon the architrave of a temple

in the vicinity of Athens. The heat, according to Fahrenheit's thermometer at the time of our coming, did not exceed eighty-four degrees; and the same temperature continued during the time we remained, a strong wind blowing from the north-west. The view from this eminence amply fulfilled our expectation; nor do the accounts which have been given of it, as it appears at this season of the year, exaggerate the novelty and grandeur of the sight. All the region towards Cairo and the Delta resembles a sea covered with innumerable islands. Forests of palm-trees were seen standing in the water, the inundation spreading over the land where they stood, so as to give them an appearance of growing in the flood. To the north, as far as the eye could reach, nothing could be discerned but a watery surface thus diversified by plantations and by villages. To the south we saw the Pyramids of Saccára; and upon the east of these, smaller monuments of the same kind near to the Nile. An appearance of ruins might indeed be traced the whole way from the Pyramids of Djiza to those of Saccára, as if they had once been connected, so as to constitute one vast cemetery. Beyond the Pyramids of Saccára we could perceive the distant mountains of the Said; and upon an eminence near the Libyan side of the Nile, appeared a monastery of considerable size. Toward the west and south-west, the eye ranged over the great Libyan Desert, extending to the utmost verge of the horizon, without a single object to interrupt the dreary horror of the landscape, except dark floating spots caused by the shadows of passing clouds upon the sand.

Upon the south-east side is the gigantic statue of the Sphinx, the most colossal piece of sculpture which remains of all the works executed by the ancients. The French have uncovered all the pedestal of this statue, and all the cumbent or leonine parts of the figure; these were before entirely concealed by sand. Instead, however, of answering the expectations raised concerning the work upon which it was supposed to rest, the pedestal proves to be a wretched substructure of brick-work and small pieces of stone put to-

gether, like the most insignificant piece of modern masonry, and wholly out of character both with respect to the prodigious labor bestowed upon the statue itself, and the gigantic appearance of the surrounding objects. Beyond the Sphinx we distinctly discerned, amidst the sandy waste, the remains and vestiges of a magnificent building, perhaps the Serapeum.

Immediately beneath our view, upon the eastern and western side, we saw so many tombs that we were unable to count them, some being half-buried in the sand, others rising considerably above it. All these are of an oblong form, with sides sloping like the roofs of European houses. A plan of their situation and appearance is given in Pocock's "Travels." The second pyramid, standing to the south-west, has the remains of a covering near its vertex, as of a plaiting of stone which had once invested all its four sides. Some persons, deceived by the external hue of this covering, have believed it to be made of marble; but its white appearance is owing to a partial decomposition affecting the surface only. Not a single fragment of marble can be found anywhere near this pyramid. It is surrounded by a paved court, having walls on the outside, and places as for doors or portals in the walls; also an advanced work or portico. A third pyramid, of much smaller dimensions than the second, appears beyond the Sphinx to the south-west; and there are three others, one of which is nearly buried in the sand, between the large pyramid and this statue to the south-east.

AFRICA

Pharaoh's Tomb

By GIOVANNI BATTISTA BELZONI

THE burial-place of the great city of a hundred gates was at the foot of the Libyan Mountains, on the west of Thebes. Every part of these rocks is cut out by art, in the form of large and small chambers, each of which has its separate entrance; and, though they are very close to each other, it is seldom that there is any interior communication from one to another. I can truly say it is impossible to give any description sufficient to convey the smallest idea of these subterranean abodes and their inhabitants. There are no sepulchers in any part of the world like them; there are no excavations or mines that can be compared to these truly astonishing places; and no exact description can be given of their interior, owing to the difficulty of visiting these recesses.

A traveler is generally satisfied when he has seen the large hall, the gallery, the staircase, and as far as he can conveniently go; besides he is taken up with the strange works he sees cut in various places and painted on each side of the walls; so that when he comes to a narrow and difficult passage, or to have to descend to the bottom of a well or cavity, he declines taking such trouble, naturally supposing that he cannot see in these abysses anything so magnificent as what he sees above, and consequently deeming it useless to proceed any farther. Of some of these tombs many persons could not withstand the suffocating air, which

often causes fainting. A vast quantity of dust rises, so fine that it enters the throat and nostrils, and chokes the throat and mouth to such a degree that it requires great power of lungs to resist it and the strong effluvia of the mummies. This is not all; the entry or passage where the bodies are is roughly cut in the rocks, and the falling of sand from the upper part or ceiling of the passage causes it to be nearly filled up.

In some places there is not more than the vacancy of a foot left, which you must contrive to pass through in a creeping posture, like a snail, on pointed and keen stones that cut like glass. After getting through these passages, some of them two or three hundred yards long, you generally find a more commodious place, perhaps high enough to sit. But what a place of rest! surrounded by bodies, by heaps of mummies, in all directions, which, previous to my being accustomed to the sight, impressed me with horror. The blackness of the wall; the faint light given by the candles or torches for want of air; the different objects that were around me seeming to converse with each other; and the Arabs with the torches or candles in their hands, naked and covered with dust, themselves resembling living mummies, absolutely formed a scene that cannot be described.

In such a situation I found myself several times, and often returned exhausted and fainting, until at last I became inured to it, and indifferent to what I suffered except from the dust, which never failed to choke my throat and nose; and though fortunately I am destitute of the sense of smelling, I could taste that the mummies were rather unpleasant to swallow. After the exertion of entering such a place, after a passage of fifty, a hundred, three hundred, or perhaps six hundred yards, nearly overcome, I sought a resting-place, found one, and contrived to sit; but when my weight bore on the body of an Egyptian, it crushed it like a band-box. I naturally had recourse to my hands to sustain my weight; but they found no better support, so that I sank among the broken mummies with a crash of bones, rags, and wooden cases, which raised such a dust as kept me motion-

less for a quarter of an hour, waiting until it subsided again. I could not move from the place, however, without increasing it, and every step I took crushed a mummy in some part or other.

Once I was conducted from such a place to another resembling it through a passage of about twenty feet in length, and no wider than that the body could be forced through. It was choked with mummies, and I could not pass without putting my face in contact with that of some decayed Egyptian; but as the passage inclined downward, my own weight helped me on. However, I could not help being covered with bones, legs, arms and heads rolling from above me. Thus I proceeded from one cave to another, all full of mummies, piled up in various ways, some standing, some lying, and some on their heads. The purpose of my researches was to rob the Egyptians of their papyri, of which I found a few hidden in their breasts, under their arms, and in the space above the knees, or on the legs, and covered by the numerous folds of cloth that envelop the mummy.

On October 16, 1817, I recommenced my excavations in the valley of Beban el Malook, and pointed out the fortunate spot which has paid me for all the trouble I took in my researches. . . . Not fifteen yards from the last tomb I described, I caused the earth to be opened at the foot of a steep hill, and under a torrent, which, when it rains, pours a great quantity of water over the very spot I have caused to be dug. No one could imagine that the ancient Egyptians would make the entrance into such an immense and superb excavation just under a torrent of water; but I had strong reasons to suppose that there was a tomb in that place, from indications I had observed in my pursuit. The Fellahs who were accustomed to dig were all of opinion that there was nothing in that spot, as the situation of this tomb differed from that of any other. I continued the work, however, and the next day, the 17th, in the evening, we reached the part of the rock that was cut and formed the entrance.

It was eighteen feet below ground and led to a corridor.

I perceived immediately by the painting on the ceiling, and by the hieroglyphics in *basso-rilievo*, which were to be seen where the earth did not reach, that this was the entrance to a large and magnificent tomb. At the end of this corridor I came to a staircase twenty-three feet long and of the same breadth as the corridor—eight feet eight inches. The door at the bottom is twelve feet high. From the foot of the staircase I entered another corridor, thirty-seven feet three inches long, and of the same width and height as the other, each side sculptured with hieroglyphics in *basso-rilievo*, and painted. The ceiling also is finely painted, and in pretty good preservation. . . .

When we had passed through a little aperture in the wall we found ourselves in a beautiful hall, twenty-seven feet six inches by twenty-five feet ten inches, in which were four pillars three feet square. At the end of this room, which I call the Entrance-Hall, and opposite the aperture, is a large door, from which three steps lead down into a chamber with two pillars. This is twenty-eight feet two inches by twenty-five feet six inches. The pillars are three feet ten inches square. I gave it the name of the Drawing-Room; for it is covered with figures which, though only outlined, are so fine and perfect that you would think they had been drawn only the day before.

Returning into the Entrance-Hall, we saw on the left of the aperture a large staircase, which descended into a corridor. It is thirteen feet four inches long, seven and a half wide, and has eighteen steps. At the bottom we entered a beautiful corridor, thirty-six feet six inches by six feet eleven inches. We perceived that the paintings became more perfect as we advanced farther into the interior. They retained their gloss, or a kind of varnish over the colors, which had a beautiful effect. The figures are painted on a white ground.

At the end of this corridor we descended ten steps, which I call the small stairs, into another, seventeen feet two inches by ten feet five inches. From this we entered a small chamber, twenty feet four inches by thirteen feet eight

inches, to which I gave the name of the Room of Beauties; for it is adorned with the most beautiful figures in *basso-rilievo*, like all the rest, and painted. When standing in the center of this chamber, the traveler is surrounded by an assembly of Egyptian gods and goddesses.

Proceeding farther, we entered a large hall, twenty-seven feet nine inches by twenty-six feet ten inches. In this hall are two rows of square pillars, three on each side of the entrance, forming a line with the corridors. At each side of this hall is a small chamber: that on the right is ten feet five inches by eight feet eight inches; that on the left ten feet five inches by eight feet nine inches and a half. This hall I termed the Hall of Pillars; the little room on the right Isis's Room, as in it a large cow is painted, of which I shall give a description hereafter; that on the left, the Room of Mysteries, from the mysterious figures it exhibits.

At the end of this hall we entered a large saloon, with an arched roof or ceiling, which is separated from the Hall of Pillars only by a step; so that the two may be reckoned one. The saloon is thirty-one feet ten inches by twenty-seven feet. On the right of the saloon is a small chamber without anything in it, roughly cut, as if unfinished, and without painting; on the left we entered a chamber with two square pillars, twenty-five feet eight inches by twenty-two feet ten inches. This I called the Sideboard Room, as it has a projection of three feet in form of a sideboard all around, which was perhaps intended to contain the articles necessary for the funeral ceremony. The pillars are three feet four inches square, and the whole beautifully painted as the rest.

At the same end of the room, and facing the Hall of Pillars, we entered by a large door into another chamber with four pillars, one of which is fallen down. This chamber is forty-three feet four inches by seventeen feet six inches; the pillars three feet seven inches square. It is covered with white plaster where the rock did not cut smoothly, but there is no painting on it. I named it the Bull's or Apis's

Room, as we found the carcass of a bull in it, embalmed with asphaltum; and also, scattered in various places, an immense quantity of small wooden figures of mummies six or eight inches long, and covered with asphaltum to preserve them. There were some other figures of fine earth baked, colored blue, and strongly varnished. On each side of the two little rooms were some wooden statues standing erect, four feet high, with a circular hollow inside, as if to contain a roll of papyrus, which I have no doubt they did. We found likewise fragments of other statues of wood and of composition.

But the description of what we found in the center of the saloon, and which I have reserved till this place, merits the most particular attention, not having its equal in the world, and being such as we had no idea could exist. It is a sarcophagus of the finest oriental alabaster, nine feet five inches long, and three feet seven inches wide. Its thickness is only two inches; and it is transparent when a light is placed in the inside of it. It is minutely sculptured within and without with several hundred figures, which do not exceed two inches in height, and represent, as I suppose, the whole of the funeral procession and ceremonies relating to the deceased, united with several emblems, etc.

I cannot give an adequate idea of this beautiful and invaluable piece of antiquity, and can only say that nothing has been brought into Europe from Egypt that can be compared with it. The cover was not there; it had been taken out and broken into several pieces, which we found in digging before the first entrance. The sarcophagus was over a staircase in the center of the saloon, which communicated with a subterranean passage, leading downward, three hundred feet in length. . . .

The wall was previously made as smooth as possible, and where there were flaws in the rock the vacuum was filled up with cement, which, when hard, was cut along with the rest of the rock. Where a figure or anything else was required to be formed, the sculptor appears to have made his first sketches of what was intended to be cut out.

When the sketches were finished in red lines by the first artist, another more skillful corrected the errors, if any, and his lines were made in black, to be distinguished from those which were imperfect. When the figures were thus prepared, the sculptor proceeded to cut out the stone all round the figure, which remained in *basso-rilievo*, some to the height of half an inch and some much less, according to the size of the figure. For instance, if a figure were as large as life, its elevation was generally half an inch; if the figure were not more than six inches in length, its projection would not exceed the thickness of a dollar, or perhaps less.

The angles of the figures were all smoothly rounded, which makes them appear less prominent than they really are. The parts of the stone that were to be taken off all around the figure did not extend much farther, as the wall is thickly covered with figures and hieroglyphics, and I believe there is not a space on these walls more than a foot square without some figure or hieroglyphic. The garments, and various parts of the limbs, were marked by a narrow line, not deeper than the thickness of a half-crown, but so exact that it produced the intended effect.

When the figures were completed and made smooth by the sculptor, they received a coat of whitewash all over. This white is so beautiful and clear, that our best and whitest paper appeared yellowish when compared with it. The painter came next and finished the figure. It would seem as if they were unacquainted with any color to imitate the naked parts, since red is adopted as a standing color for all that meant flesh. There are some exceptions, indeed; for in certain instances, when they intended to represent a fair lady, by way of distinguishing her complexion from that of the men, they put on a yellow color to represent her flesh; yet it cannot be supposed that they did not know how to reduce their red paints to a flesh color, for on some occasions, where the red flesh is supposed to be seen through a thin veil, the tints are nearly of the natural color, if we suppose the Egyptians to have been of the same hue

as their successors, the present Copts, some of whom are nearly as fair as the Europeans.

Their garments were generally white, and their ornaments formed the most difficult part, when the artists had to employ red in the distribution of the four colors, in which they were very successful. When the figures were finished, they appear to have laid on a coat of varnish; though it may be questioned whether the varnish were thus applied, or incorporated with the color. The fact is that nowhere else except in this tomb is the varnish to be observed, as no place in Egypt can boast of such preservation, nor can the true customs of the Egyptians be seen anywhere else with greater accuracy. . . .

Immediately within the entrance into the first passage, on the left hand, are two figures as large as life, one of which appears to be the hero entering into the tomb. He is received by a deity with a hawk's head, on which are the globe and serpent. Both figures are surrounded by hieroglyphics; and, farther on, near the ground, is a crocodile very neatly sculptured. The walls on both sides of this passage are covered with hieroglyphics, which are separated by lines from the top to the bottom, at the distance of five or six inches from one another. Within these lines the hieroglyphics form their sentences; and it is plainly to be seen that the Egyptians read from the top to the bottom, and then recommenced at the top. The ceiling of this first passage is painted with the figure of the eagles. . . .

In the front of this first hall, facing the entrance, is one of the finest compositions that was ever made by the Egyptians, for nothing like it can be seen in any part of Egypt. It consists of four figures as large as life. The god Osiris sits upon his throne, receiving the homages of a hero, who is introduced by a hawk-headed deity. Behind the throne is a female figure as if in attendance on the great god. The whole group is surrounded by hieroglyphics, and enclosed in a frame richly adorned with symbolical figures. The winged globe is above, with the wings spread over all, and a line of serpents crowns the whole. The figures and paint-

ings are in such perfect preservation that they give the most correct idea of their ornaments and decorations. . . .

On going out of this second chamber into the first hall is a staircase, which leads into a lower passage, the entrance into which is decorated with two figures on each side, a male and a female, as large as life. The female appears to represent Isis, having, as usual, the horns and globe on her head. She seems ready to receive the hero, who is about to enter the regions of immortality. The garments of this figure are so well preserved that nothing which has yet been brought before the public can give a more correct idea of Egyptian costumes. The figure of the hero is covered with a veil, or transparent linen, folded over his shoulder.

AFRICA

The Great Albert Nyanza

By SIR SAMUEL BAKER

MY men appeared in high spirits at the prospect of joining so large a party as that of Mahamed, which mustered about two hundred men.

At that time I really placed dependence upon the professions of Mahamed and his people ; they had just brought Speke and Grant with them, and had received from them presents of a first-class double-barreled gun and several valuable rifles. I had promised not only to assist them in their ivory expeditions, but to give them something very handsome in addition, and the fact of my having upward of forty men as escort was also an introduction, as they would be an addition to the force, which is a great advantage in hostile countries. Everything appeared to be in good train, but I little knew the duplicity of these Arab scoundrels. At the very moment that they were most friendly, they were plotting to deceive me, and to prevent me from entering the country. They knew that, should I penetrate the interior, the ivory trade of the White Nile would be no longer a mystery, and that the atrocities of the slave trade would be exposed, and most likely be terminated by the intervention of European Powers ; accordingly they combined to prevent my advance, and to overthrow my expedition completely. The whole of the men belonging to the various traders were determined that no Englishman should penetrate into the country; accordingly they fraternized with my

escort, and persuaded them that I was a Christian dog, that it was a disgrace for a Mohammedan to serve; that they would be starved in my service, as I would not allow them to steal cattle; that they would have no slaves; and that I should lead them—God knew where—to the sea, from whence Speke and Grant had started. . . .

Among my people were two blacks: one, Richarn already described as having been brought up by the Austrian Mission at Khartoum; the other, a boy of twelve years old, Saat. As these were the only really faithful members of the expedition, it is my duty to describe them. Richarn was an habitual drunkard, but he had his good points; he was honest, and much attached to both master and mistress. He had been with me for some months, and was a fair sportsman, and being of an entirely different race from the Arabs, he kept himself apart from them, and fraternized with the boy Saat.

Not only was the latter boy trustworthy, but he had an extraordinary amount of moral in addition to physical courage. If any complaint were made, and Saat was called as a witness—far from the shyness too often evinced when the accuser is brought face to face with the accused—such was Saat's proudest moment; and, no matter who the man might be, the boy would challenge him, regardless of all consequences. We were very fond of this boy; he was thoroughly good; and in that land of iniquity, thousands of miles away from all except what was evil, there was a comfort in having some one innocent and faithful, in whom to trust.

One morning I had returned to the tent after having, as usual, inspected the transport animals, when I observed Mrs. Baker looking extraordinarily pale, and immediately upon my arrival she gave orders for the presence of the vakeel (headman). There was something in her manner, so different from her usual calm, that I was utterly bewildered when I heard her question the vakeel whether the men were willing to march. Perfectly ready, was the reply. "Then order them to strike the tent, and load the animals;

we start this moment." The man appeared confused, but not more so than I. Something was evidently on foot, but what I could not conjecture. The vakeel wavered, and to my astonishment I heard the accusation made against him, that, "during the night, the whole of the escort had mutinously conspired to desert me, with my arms and ammunition that were in their hands, and to fire simultaneously at me should I attempt to disarm them." At first this charge was indignantly denied, until the boy Saat manfully stepped forward and declared that the conspiracy was entered into by the whole of the escort, and that both he and Richarn, knowing that mutiny was intended, had listened purposely to the conversation during the night ; at daybreak the boy reported the fact to his mistress. Mutiny, robbery, and murder were thus deliberately determined, but I promptly dismissed them as mutineers.

We now took a different road. My wife and I rode about a quarter of a mile at the head of the party as an advance-guard, to warn the caravan of any difficulty. The very nature of the country declared that it must be full of ravines, and yet I could not help hoping against hope that we might have a clear mile of road without a break. The evening had passed, and the light faded. What had been difficult and tedious during the day, now became most serious—we could not see the branches of hooked thorns that overhung the broken path; I rode in advance, my face and arms bleeding with countless scratches, while at each rip of a thorn I gave a warning shout—"Thorn!" for those behind, and a cry of "Hole!" for any deep rut that lay in the path. It was fortunately moonlight, but the jungle was so thick that the narrow track was barely perceptible: thus both camels and donkeys ran against the trunks of trees, smashing the luggage, and breaking all that could be broken; nevertheless, the case was urgent; march we must, at all hazards.

For a long time we sat gazing at the valley before us in which our fate lay hidden, feeling thankful that we had thus checkmated the brutal Turks. Not a sound was heard of

our approaching camels; the delay was most irksome. There were many difficult places that we had passed through, and each would be a source of serious delay to the animals.

At length we heard them in the distance. We could distinctly hear the men's voices, and we rejoiced that they were approaching the last remaining obstacle; that one ravine passed through, and all before would be easy. I heard the rattling of the stones as they drew nearer; and, looking toward the ravine, I saw emerge from the dark foliage of the trees within fifty yards of us the hated red flag and crescent, leading the Turks' party! We were outmarched!

One by one, with scowling looks, the insolent scoundrels filed by us within a few feet, without making the customary salaam; neither noticing us in any way, except by threatening to shoot the latooka, our guide, who had formerly accompanied them. At length their leader, Ibrahim, appeared in the rear of the party. He was riding on a donkey, being the last of the line, behind the flag that closed the march.

I never saw a more atrocious countenance than that exhibited in this man. A mixed breed, between a Turk sire and an Arab mother, he had the good features and bad qualities of either race. The fine, sharp, high-arched nose and large nostril; the pointed and projecting chin; rather high cheek-bones and prominent brow, overhanging a pair of immense black eyes full of expression of all evil. As he approached he took no notice of us, but studiously looked straight before him with the most determined insolence.

The fate of the expedition was, at this critical moment, retrieved by Mrs. Baker. She implored me to call him, to insist upon a personal explanation, and to offer him some present in the event of establishing amicable relations. I could not condescend to address the sullen scoundrel. He was in the act of passing us, and success depended upon that instant. Mrs. Baker herself called him. For the moment he made no reply; but, upon my repeating the call in a loud key, he turned his donkey toward us and dis-

RUINS AT THEBES, EGYPT

mounted. I ordered him to sit down, as his men were ahead and we were alone.

The following dialogue passed between us after the usual Arab mode of greeting. I said, "Ibrahim, why should we be enemies in the midst of this hostile country? We believe in the same God, why should we quarrel in this land of heathens, who believe in no God? You have your work to perform; I have mine. You want ivory; I am a simple traveler; why should we clash? If I were offered the whole ivory of the country, I would not accept a single tusk, nor interfere with you in any way. Transact your business, and don't interfere with me; the country is wide enough for us both. I have a task before me, to reach a great lake —the head of the Nile. Reach it I will (Inshallah). No power shall drive me back. If you are hostile, I will imprison you in Khartoum; if you assist me, I will reward you far beyond any reward you have ever received. Should I be killed in this country, you will be suspected; you know the result; the Government would hang you on the bare suspicion. On the contrary, if you are friendly, I will use my influence in any country that I discover, that you may procure its ivory for the sake of your master Koorshid, who was generous to Captains Speke and Grant, and kind to me. Should you be hostile, I shall hold your master responsible as your employer. Should you assist me, I will befriend you both. Choose your course frankly, like a man—friend or enemy?"

Before he had time to reply, Mrs. Baker addressed him much in the same strain, telling him that he did not know what Englishmen were; that nothing would drive them back; that the British government watched over them wherever they might be, and that no outrage could be committed with impunity upon a British subject. That I would not deceive him in any way; that I was not a trader; and that I should be able to assist him materially by discovering new countries rich in ivory, and that he would benefit himself personally by civil conduct.

He seemed confused, and wavered. I immediately prom-

ised him a new double-barreled gun and some gold, when my party should arrive, as an earnest of the future.

He replied that he did not himself wish to be hostile, but that all the trading parties, without one exception, were against me, and that the men were convinced that I was a consul in disguise, who would report to the authorities at Khartoum all the proceedings of the traders. He said also that he believed me, but that his men would not; that all people told lies in their country, therefore no one was credited for the truth. "However," said he, "do not associate with my people, or they may insult you, but go and take possession of that tree (pointing to one in the valley of Ellyria) for yourself and people, and I will come there and speak with you. I will now join my men, as I do not wish them to know that I have been conversing with you." He then made a salaam, mounted his donkey, and rode off.

I had won him. I knew the Arab character so thoroughly that I was convinced that the tree he had pointed out, followed by the words, "I will come there and speak with you," was to be the rendezvous for the receipt of the promised gun and money. He was friendly after this, but the men showed an ugly temper. . . .

Pretending not to notice Bellaal, who was now, as I had suspected, once more the ringleader, for the third time I ordered the men to rise immediately, and to load the camels. Not a man moved, but the fellow Bellaal marched up to me, and looking me straight in the face dashed the butt-end of his gun in defiance on the ground, and led the mutiny. "Not a man shall go with you!—go where you like with Ibrahim, but we won't follow you nor move a step farther. The men shall not load the camels; you may employ the 'niggers' to do it, but not us."

I looked at this mutinous rascal for a moment; this was the burst of the conspiracy, and the threats and insolence that I had been forced to pass over for the sake of the expedition all rushed before me. "Lay down your gun!" I thundered, "and load the camels!"—"I won't!" was his reply. "Then stop here!" I answered; at the same time

lashing out as quick as lightning with my right hand upon his jaw.

He rolled over in a heap, his gun flying some yards from his hand; and the late ringleader lay apparently insensible among the luggage, while several of his friends ran to him, and did the good Samaritan. Following up on the moment the advantage I had gained by establishing a panic, I seized my rifle and rushed into the midst of the wavering men, catching first one by the throat, and then another, and dragging them to the camels, which I insisted upon their immediately loading. All except three, who attended to the ruined ringleader, mechanically obeyed. Richarn and Sali both shouted to them to "hurry"; and the vakeel arriving at this moment and seeing how matters stood, himself assisted, and urged the men to obey.

The first deserters met defeat in their slave raid. It was in vain that they fought; every bullet aimed at a Latooka struck a rock, behind which the enemy was hidden. Rocks, stones, and lances were hurled at them from all sides and from above; they were forced to retreat. The retreat ended in a panic and precipitate flight. Hemmed in on all sides, amidst a shower of lances and stones thrown from the mountain above, the Turks fled down the rocky and precipitous ravines. Mistaking their route, they came to a precipice from which there was no retreat. The screaming and yelling savages closed around them. Fighting was useless; the natives, under cover of the numerous detached rocks, offered no mark for an aim; while the crowd of armed savages thrust them forward with wild yells to the very verge of the great precipice about five hundred feet below. Down they fell! hurled to utter destruction by the mass of Latookas pressing onward! A few fought to the last; but one and all were at length forced, by sheer pressure, over the edge of the cliff, and met a just reward for their atrocities.

My men were almost green with awe when I asked them, solemnly, "Where are those men who deserted from me?" Without answering a word they brought two of my guns and laid them at my feet. They were covered

with clotted blood mixed with sand, which had hardened like cement over the locks and various portions of the barrels. My guns were all marked. As I looked at the numbers upon the stocks, I repeated aloud the names of the owners. "Are they all dead?" I asked. "None of the bodies can be recovered," faltered my vakeel. "The two guns were brought from the spot by some natives who escaped, and who saw the men fall. They are all killed." "Better for them had they remained with me and done their duty. The hand of God is heavy," I replied. My men slunk away abashed, leaving the gory witnesses of defeat and death on the ground. I called Saat and ordered him to give the two guns to Richarn to clean.

Not only my own men but the whole of Ibrahim's party were of the opinion that I had some mysterious connection with the disaster that had befallen my mutineers. All remembered the bitterness of my prophecy, "The vultures will pick their bones," and this terrible mishap having occurred so immediately afterward took a strong hold upon their superstitious minds. As I passed through the camp, the men would quietly exclaim, "Wah Illahi Hawaga!" (My Good Master.) To which I simply replied, "Robiné fe!"(There is a God.) From that moment I observed an extraordinary change in the manner of both my people and those of Ibrahim, all of whom now paid us the greatest respect. . . .

Our course lay across a stream in the center of a marsh, and although deep, it was so covered with thickly-matted water-grass and other aquatic plants, that a natural floating bridge was established by a carpet of weeds about two feet thick; upon this waving and unsteady surface the men ran quickly across, sinking merely to the ankles, although beneath the tough vegetation there was deep water. It was equally impossible to ride or to be carried over this treacherous surface; thus I led the way, and begged Mrs. Baker to follow me on foot as quickly as possible, precisely in my track. The river was about eight yards wide, and I had scarcely completed a fourth of the distance and looked back

to see if my wife followed close to me, when I was horrified to see her standing in one spot, and sinking gradually through the weeds, while her face was distorted and perfectly purple. Almost as soon as I perceived her she fell as though shot dead.

In an instant I was by her side, and with the assistance of eight or ten of my men, who were fortunately close to me, I dragged her like a corpse through the yielding vegetation, and up to our waists we scrambled across to the other side, just keeping her head above the water ; to have carried her would have been impossible, as we should all have sunk together through the weeds. I laid her under a tree, and bathed her head and face with water, as for the moment I thought she had fainted ; but she lay perfectly insensible, as though dead, with teeth and hands firmly clinched, and her eyes open, but fixed. It was a *coup de soleil.*

We bore her to a miserable native village, where we could not procure anything to eat. It was impossible to remain; the people would have starved. She was laid gently upon her litter, and we started forward on our funereal course. I was ill and broken-hearted, and I followed by her side through the long day's march over wild park-lands and streams, with thick forests and deep marshy bottoms ; over undulating hills, and through valleys of tall papyrus rushes, which, as we brushed through them on our melancholy way, waved over the litter like the black plumes of a hearse.

We halted at a village, and again the night was passed in watching. I was wet, and coated with mud from the swampy marsh, and shivered with ague; but the cold within was greater than all. No change had taken place; she had never moved. I had plenty of fat, and I made four balls of about half a pound, each of which would burn for three hours. A piece of a broken water-jar formed a lamp, several pieces of rag serving for wicks. So in solitude the still calm night passed away as I sat by her side and watched. In the drawn and distorted features that lay before me I

could hardly trace the same face that for years had been my comfort through all the difficulties and dangers of my path. Was she to die? Was so terrible a sacrifice to be the result of my selfish exile!

Again the night passed away. Once more the march. Though weak and ill, and for two nights without a moment's sleep, I felt no fatigue, but mechanically followed by the side of the litter as though in a dream. The same wild country diversified with marsh and forest. Again we halted. The night came, and I sat by her side in a miserable hut, with the feeble lamp flickering while she lay as in death. She had never moved a muscle since she fell. My people slept. I was alone, and no sound broke the stillness of the night. The ears ached at the utter silence, till the sudden wild cry of an hyena made me shudder as the horrible thought rushed through my brain that, should she be buried in this lonely spot, the hyena would . . . disturb her rest.

The morning was not far distant; it was past four o'clock. I had passed the night in replacing wet cloths upon her head and moistening her lips, as she lay apparently lifeless on her litter. I could do nothing more; in solitude and abject misery in that dark hour, in a country of savage heathens, thousands of miles away from a Christian land, I beseeched an aid above all human, trusting alone to Him.

The morning broke; my lamp had just burnt out, and, cramped with the night's watching, I rose from my low seat, and, seeing that she lay in the same unaltered state, I went to the door of the hut to breathe one gasp of the fresh morning air. I was watching the first red streak that heralded the rising sun, when I was startled by the words "Thank God!" faintly uttered behind me. Suddenly she had awakened from her torpor, and with a heart overflowing I went to her bedside. Her eyes were full of madness! She spoke; but the brain was gone!

I will not inflict a description of the terrible trial of seven days of brain fever, with its attendant horrors. The rain poured in torrents, and day after day we were forced to

travel, for want of provisions, not being able to remain in one position. Every now and then we shot a few guinea-fowl, but rarely; there was no game, although the country was most favorable. In the forests we procured wild honey; but the deserted villages contained no supplies, as we were on the frontier of Uganda, and Mtesa's people had plundered the district. For seven nights I had not slept, and although as weak as a reed, I had marched by the side of her litter. Nature could resist no longer. We reached a village one evening ; she had been in violent convulsions successively; it was all but over. I laid her down on her litter within a hut; covered her with a Scotch plaid; and I fell upon my mat insensible, worn out with sorrow and fatigue. My men put a new handle to the pickaxe that evening ,and sought for a dry spot to dig her grave !

The sun had risen when I woke. I had slept, and, horrified as the idea flashed upon me that she must be dead, and that I had not been with her, I started up. She lay upon her bed, pale as marble, and with that calm serenity that the features assume when the cares of life no longer act upon the mind, and the body rests in death. The dreadful thought bowed me down; but as I gazed upon her in fear, her chest gently heaved, not with the convulsive throbs of fever, but naturally. She was asleep; and when at a sudden noise she opened her eyes, they were calm and clear. She was saved! When not a ray of hope remained, God alone knows what helped us. The gratitude of that moment I will not attempt to describe. . . .

AFRICA

Finding the Source of the Nile

By SIR SAMUEL BAKER

FOR several days past our guides had told us that we were very near to the lake, and we were now assured that we should reach it on the morrow. I had noticed a lofty range of mountains at an immense distance west, and I had imagined that the lake lay on the other side of this chain; but I was now informed that those mountains formed the western frontier of the M'wootan N'zigé, and that the lake was actually within a march of Parkani. I could not believe it possible that we were so near the object of our search. The guide Rabonga now appeared, and declared that if we started early on the following morning we should be able to wash in the lake by noon!

That night I hardly slept. For years I had striven to reach the "sources of the Nile." In my nightly dreams during that arduous voyage I had always failed, but after so much hard work and perseverance the cup was at my very lips, and I was to drink at the mysterious fountain before another sun should set—at that great reservoir of Nature that ever since creation had baffled all discovery.

I had hoped, and prayed, and striven through all kinds of difficulties, in sickness, starvation, and fatigue, to reach that hidden source ; and when it had appeared impossible, we had both determined to die upon the road rather than return defeated. Was it possible that it was so near, and that to-morrow we could say, The work is accomplished ?

March 14.—The sun had not risen when I was spurring my ox after the guide, who, having been promised a double handful of beads on arrival at the lake, had caught the enthusiasm of the moment. The day broke beautifully clear, and having crossed a deep valley between the hills, we toiled up the opposite slope. I hurried to the summit. The glory of our prize burst suddenly upon me! There, like a sea of quicksilver, lay far beneath the grand expanse of water—a boundless sea horizon on the south and south-west, glittering in the noonday sun; and on the west at fifty or sixty miles' distance blue mountains rose from the bosom of the lake to a height of about 7000 feet above its level.

It is impossible to describe the triumph of that moment —here was the reward for all our labor—for the years of tenacity with which we had toiled through Africa. England had won the source of the Nile! Long before I reached this spot I had arranged to give three cheers with all our men in English style in honor of the discovery, but now that I looked down upon the great inland sea lying nestled in the very heart of Africa, and thought how vainly mankind had sought these sources throughout so many ages, and reflected that I had been the humble instrument permitted to unravel this portion of the great mystery when so many greater than I had failed, I felt too serious to vent my feelings in vain cheers for victory, and I sincerely thanked God for having guided and supported us through all dangers to the good end. I was about 1500 feet above the lake, and I looked down from the steep granite cliff upon those welcome waters—upon that vast reservoir which nourished Egypt and brought fertility where all was wilderness—upon that great source so long hidden from mankind; that source of bounty and of blessings to millions of human beings; and as one of the greatest objects in nature, I determined to honor it with a great name. As an imperishable memorial of one loved and mourned by our gracious Queen and deplored by every Englishman, I called this great lake "the Albert Nyanza." The Victoria and the Albert lakes are the two sources of the Nile.

[Elsewhere Baker describes his meeting with Speke and Grant, who had been on the same search.]

I got the report that two white men had come up from the sea with Debono's party. Could they be Speke and Grant? Off I ran, and soon met them in reality. Hurrah for old England! they had come from the Victoria Nyanza, from which the Nile springs. . . . The mystery of ages solved. With my pleasure of meeting them is the one disappointment, that I had not met them farther on the road in my search for them; however, the satisfaction is, that my previous arrangements had been such as would have insured my finding them had they been in a fix. . . . My projected route would have brought me *vis-à-vis* with them, as they had come from the lake by the course I had proposed to take. . . . All my men perfectly mad with excitement; firing salutes as usual with ball-cartridge, they shot one of my donkeys; a melancholy sacrifice as an offering at the completion of this geographical discovery.

When I first met them they were walking along the bank of the river toward my boats. At a distance of about a hundred yards I recognized my old friend Speke, and with a heart beating with joy I took off my cap and gave a welcome hurrah! as I ran toward him. For the moment he did not recognize me; ten years' growth of beard and mustache had worked a change; and as I was totally unexpected, my sudden appearance in the center of Africa appeared to him incredible. I hardly required an introduction to his companion, as we felt already acquainted, and after the transports of this happy meeting we walked together to my diahbiah; my men surrounding us with smoke and noise by keeping up an unremitting fire of musketry the whole way. We were shortly seated on deck under the awning, and such rough fare as could be hastily prepared was set before these two ragged, care-worn specimens of African travel, whom I looked upon with feelings of pride as my own countrymen.

As a good ship arrives in harbor, battered and torn by a long and stormy voyage, yet sound in her frame and

seaworthy to the last, so both these gallant travelers arrived at Gondokoro. Speke appeared the more worn of the two; he was excessively lean, but in reality he was in good tough condition; he had walked the whole way from Zanzibar, never having once ridden during that wearying march. Grant was in honorable rags, his b re knees projecting through the remnants of trousers that were an exhibition of rough industry in tailor's work. He was looking tired and feverish, but both men had a fire in the eye that showed the spirit that had led them through.

They wished to leave Gondokoro as soon as possible, *en route* for England, but delayed their departure until the moon should be in a position for an observation for determining the longitude. My boats were fortunately engaged by me for five months, thus Speke and Grant could take charge of them to Khartoum.

AFRICA

The Falls of the Zambezi

By DAVID LIVINGSTONE

WE bade adieu to our friends at Linyanti, accompanied by Sekeletu and about two hundred followers. We were all fed at his expense, and he took cattle for this purpose from every station we came to. The principal men of the Makololo, Lebeóle, Ntlarié, Nkwatléle, etc., were also of the party. We passed through the patch of the tsetse fly, fatal to beasts, which exists between Linyanti and Sesheke, by night. The majority of the company went on by daylight, in order to prepare our beds. Sekeletu and I, with about forty young men, waited outside the tsetse till dark. We then went forward, and about ten o'clock it became so pitchy dark that both horses and men were completely blinded. The lightning spread over the sky, forming eight or ten branches at a time, in shape exactly like those of a tree. This, with great volumes of sheet-lightning, enabled us at times to see the whole country. The intervals between the flashes were so densely dark as to convey the idea of stone-blindness. The horses trembled, cried out, and turned around, as if searching for each other, and every new flash revealed the men taking different directions, laughing, and stumbling against each other.

While at Sesheke, Sekeletu supplied me with twelve oxen—three of which were accustomed to being ridden upon—hoes and beads to purchase a canoe when we should strike the Leeambye beyond the falls. He likewise pre-

sented abundance of good fresh butter and honey, and did everything in his power to make me comfortable for the journey. I was entirely dependent on his generosity, for the goods I originally brought from the Cape were all expended by the time I set off from Linyanti to the west coast. I there drew £70 of my salary, paid my men with it, and purchased goods for the return journey to Linyanti. These being now all expended, the Makololo again fitted me out, and sent me on to the east coast. I was thus dependent on their bounty, and that of other Africans, for the means of going from Linyanti to Loanda, and again from Linyanti to the east coast, and I feel deeply grateful to them. Coin would have been of no benefit, for gold and silver are quite unknown.

As this was the point from which we intended to strike off to the north-east, I resolved on the following day to visit the Falls of Victoria, called by the natives Mosioatunya, or more anciently Shongwe. Of these we had often heard since we came into the country; indeed, one of the questions asked by Sebituane was, "Have you smoke that sounds in your country?" They did not go near enough to examine them, but, viewing them with awe at a distance, said, in reference to the vapor and noise, "Mosi oa tunya" (smoke does sound there). It was previously called Shongwe, the meaning of which I could not ascertain. The word for a "pot" resembles this, and it may mean a seething caldron, but I am not certain of it. Being persuaded that Mr. Oswell and myself were the very first Europeans who ever visited the Zambesi in the center of the country, and that this is the connecting link between the known and unknown portions of that river, I decided to use the same liberty as the Makololo did, and gave the only English name I have affixed to any part of the country.

Sekeletu intended to accompany me, but one canoe only having come instead of the two he had ordered, he resigned it to me. After twenty minutes' sail from Kalai we came in sight, for the first time, of the columns of vapor appropriately called "smoke," rising at a distance of five or six

miles, exactly as when large tracts of grass are burned in Africa. Five columns now arose, and, bending in the direction of the wind, they seemed placed against a low ridge covered with trees ; the tops of the columns at this distance appeared to mingle with the clouds. They were white below, and higher up became dark, so as to simulate smoke very closely. The whole scene was extremely beautiful; the banks and islands dotted over the river are adorned with sylvan vegetation of great variety of color and form. At the period of our visit several trees were spangled over with blossoms. Some trees resemble the great spreading oak, others assume the character of our own elms and chestnuts ; but no one can imagine the beauty of the view from anything witnessed in England. It had never been seen before by European eyes; but scenes so lovely must have been gazed upon by angels in their flight.

The only want felt is that of mountains in the background. The falls are bounded on three sides by ridges three hundred or four hundred feet in height, which are covered with forest, with the red soil appearing among the trees. When about half a mile from the falls, I left the canoe by which we had come down thus far, and embarked in a lighter one, with men well acquainted with the rapids, who, by passing down the center of the stream in the eddies and still places caused by many jutting rocks, brought me to an island situated in the middle of the river, and on the edge of the lip over which the water rolls. In coming hither there was danger of being swept down by the streams which rushed along on each side of the island ; but the river was now low, and we sailed where it is totally impossible to go when the water is high.

But, though we had reached the island, and were within a few yards of the spot, a view from which would solve the whole problem, I believe that no one could perceive where the vast body of water went; it seemed to lose itself in the earth, the opposite lip of the fissure into which it disappeared being only eighty feet distant. At least I did not comprehend it until, creeping with awe to the verge, I peered down

into a large rent which had been made from bank to bank of the broad Zambesi, and saw that a stream of a thousand yards broad leaped down a hundred feet, and then became suddenly compressed into a space of fifteen or twenty yards.

The entire falls are simply a crack made in a hard basaltic rock from the right to the left bank of the Zambesi, and then prolonged from the left bank away through thirty or forty miles of hills. If one imagines the Thames filled with low, tree-covered hills immediately beyond the tunnel, extending as far as Gravesend, the bed of black basaltic rock instead of London mud, and a fissure made therein from one end of the tunnel to the other down through the keystones of the arch, and prolonged from the left end of the tunnel through thirty miles of hills, the pathway being one hundred feet down from the bed of the river instead of what it is, with the lips of the fissure from eighty to one hundred feet apart, then fancy the Thames leaping bodily into the gulf, and forced there to change its direction, and flow from the right to the left bank, and then rush boiling and roaring through the hills, he may have some idea of what takes place at this, the most wonderful sight I had witnessed in Africa.

In looking down into the fissure on the right of the island, one sees nothing but a dense white cloud, which, at the time we visited the spot, had two bright rainbows on it. The sun was on the meridian, and the declination about equal to the latitude of the place. From this cloud rushed up a great jet of vapor exactly like steam, and it mounted two hundred or three hundred feet high; there condensing, it changed its hue to that of dark smoke, and came back in a constant shower, which soon wetted us to the skin. This shower falls chiefly on the opposite side of the fissure, and a few yards back from the lip there stands a straight hedge of evergreen trees, whose leaves are always wet. From their roots a number of little rills run back into the gulf, but, as they flow down the steep wall there, the column of vapor, in its ascent, licks them up clean off the rock, and away they mount again. They are constantly running down, but never reach the bottom.

On the left of the island we see the water at the bottom, a white rolling mass moving away to the prolongation of the fissure, which branches off near the left bank of the river. A piece of the rock has fallen off a spot on the left of the island, and juts out from the water below, and from it I judged the distance which the water falls to be about one hundred feet. The walls of this gigantic crack are perpendicular, and composed of one homogeneous mass of rock.

On the left side of the island we have a good view of the mass of water which causes one of the columns of vapor to ascend, as it leaps quite clear of the rock, and forms a thick unbroken fleece all the way to the bottom. Its whiteness gave the idea of snow, a sight I had not seen for many a day. As it broke into (if I may use the term) pieces of water, all rushing on in the same direction, each gave off several rays of foam exactly as bits of steel, when burned in oxygen gas, give off rays of sparks. The snow-white sheet seemed like myriads of small comets rushing on in one direction, each of which left behind its nucleus rays of foam. I never saw the appearance referred to noticed elsewhere. It seemed to be the effect of the mass of water leaping at once clear of the rock, and but slowly breaking up into spray.

I have mentioned that we saw five columns of vapor ascending from this strange abyss. They are evidently formed by the compression suffered by the force of the water's own fall into an unyielding wedge-shaped space. Of the five columns, two on the right and one on the left of the island were the largest, and the streams which formed them seemed each to exceed in size the falls of the Clyde at Stonebyres when that river is in flood. This was the period of low water in the Leeambye; but, as far as I could guess, there was a flow of five or six hundred yards of water, which, at the edge of the fall, seemed at least three feet deep.

The fissure is said by the Makololo to be very much deeper farther to the eastward; there is one part at which the walls are so sloping that people accustomed to it can go down by descending in a sitting position. The Makololo

DAVID LIVINGSTONE.

on one occasion, pursuing some fugitive Batoka, saw them, unable to stop the impetus of their flight at the edge, literally dashed to pieces at the bottom. They beheld the stream like a "white cord" at the bottom, and so far down (probably three hundred feet) that they became giddy, and were fain to go away holding on to the ground.

Sekeletu and his large party having conveyed me thus far, and furnished me with a company of one hundred and fourteen men to carry the tusks to the coast, we bade adieu to the Makololo on the twentieth of November and proceeded northward to the Lekone. The country around is very beautiful, and was once well peopled with Batoka, who possessed enormous herds of cattle. When Sebituane came in former times, with his small but warlike party of Makololo, to this sport, a general rising took place of the Batoka through the whole country, in order to "eat him up;" but his usual success followed him, and, dispersing them, the Makalolo obtained so many cattle that they could not take any note of the herds of sheep and goats. The tsetse had been brought by buffaloes into some districts where formerly cattle abounded. This obliged us to travel the first few stages by night. We could not well detect the nature of the country in the dim moonlight; the path, however, seemed to lead along the high bank of what may have been the ancient bed of the Zambesi before the fissure was made. The Lekone now winds in it in an opposite direction to that in which the ancient river must have flowed.

For a few days we traveled over an uninhabited, gently undulating and most beautiful district, the border territory between those who accept and those who reject the sway of the Makololo. The face of the country appears as if in long waves, running north and south. There are no rivers, though water stands in pools in the hollows. We were now come into the country which my people all magnify as a perfect paradise. Sebituane was driven from it by the Matebele. It suited him exactly for cattle, corn, and health. The soil is dry, and often a reddish sand; there are few trees, but fine large shady ones stand dotted here and there

over the country where towns formerly stood. One of the fig family I measured, and found to be forty feet in circumference ; the heart had been burnt out, and some one had made a lodging in it, for we saw the remains of a bed and a fire. The sight of the open country, with the increased altitude we were attaining, was most refreshing to the spirits. Large game abound. We see in the distance buffaloes, elands, hartebeest, gnus, and elephants, all very tame, as no one disturbs them. Lions, which always accompany other large animals, roared about us, but, as it was moonlight, there was no danger. In the evening, while standing on a mass of granite, one began to roar at me, though it was still light.

On the third of December we crossed the river Mozuma, or river of Dila, having traveled through a beautifully undulating pastoral country. To the south, and a little east of this, stands the hill Tabu Cheu, or "White Mountains," from a mass of white rock, probably dolomite, on its top. But none of the hills are of any great altitude. The Mozuma, or river of Dila, was the first water-course which indicated that we were now on the slopes toward the eastern coast. It contained no flowing water, but revealed in its banks what gave me great pleasure at the time—pieces of lignite, possibly indicating the existence of a mineral, namely, coal, the want of which in the central country I had always deplored. Again and again we came to the ruins of large towns, containing the only hieroglyphics of this country, worn millstones, with the round ball of quartz with which the grinding was effected. Great numbers of these balls were lying about, showing that the depopulation had been the result of war ; for, had the people removed in peace, they would have taken the balls with them.

When we had passed the outskirting villages, which alone consider themselves in a state of war with the Makololo, we found the Batoka, or Batonga, as they here call themselves, quite friendly. Great numbers of them came from all the surrounding villages with presents of maize and masuka, and expressed great joy at the first appearance of

a white man, and harbinger of peace. The women clothe themselves better than the Balonda, but the men go *in puris naturalibus*. They walk about without the smallest sense of shame.

The farther we advanced, the more we found the country swarming with inhabitants. Great numbers came to see the white man, a sight they had never beheld before. They always brought presents of maize and masuka. Their mode of salutation is quite singular. They throw themselves on their backs on the ground, and rolling from side to side, slap the outside of their thighs as expressions of thankfulness and welcome, uttering the words "Kina bomba." This method of salutation was to me very disagreeable, and I never could get reconciled to it. I called out, "Stop, stop ; I don't want that ;" but they, imagining I was dissatisfied, only tumbled about more furiously, and slapped their thighs with greater vigor. . . .

As we approached nearer the Zambesi, the country became covered with broad-leaved bushes, pretty thickly planted, and we had several times to shout to elephants to get out of our way. At an open space, a herd of buffaloes came trotting up to look at our oxen, and it was only by shooting one that I made them retreat. The meat is very much like that of an ox, and this one was very fine. The only danger we actually encountered was from a female elephant, with three young ones of different sizes. Charging through the center of our extended lines, and causing the men to throw down their burdens in a great hurry, she received a spear for her temerity. I never saw an elephant with more than one calf before. We knew that we were near our Zambesi, again, even before the great river burst upon our sight, by the numbers of water-fowl we met. I killed four geese with two shots, and, had I followed the wishes of my men, could have secured a meal of water-fowl for the whole party. I never saw a river with so much animal life around and in it, and, as the Barotse say, "Its fish and fowl are always fat." When our eyes were gladdened by a view of its goodly broad waters, we found it

very much larger than it is even above the fall. One might try to make his voice heard across it in vain. Its flow was more rapid than near Sesheke, being often four and a half miles an hour.

OCEANIA

Manila in the Forties

By CHARLES WILKES

AT daylight, on the thirteenth of January, 1842, we were again under way, with a light air, and at nine o'clock reached the roadstead, where we anchored in six fathoms of water, with good holding ground.

A number of vessels were lying in the roads, among which were several Americans loading with hemp. There was also a large English East Indiaman, manned by Lascars, whose noise rendered her more like a floating Bedlam than anything else to which I can liken it.

The view of the city and country around Manila partakes both of a Spanish and an Oriental character. The somber and heavy-looking churches with their awkward towers ; the long lines of batteries mounted with heavy cannon ; the massive houses, with ranges of balconies ; and the light and airy cottages, elevated on posts, situated in the luxuriant groves of tropical trees—all excite desire to become better acquainted with the country.

Manila is situated on an extensive plain, gradually swelling into distant hills, beyond which, again, mountains rise in the background to the height of several thousand feet. The latter are apparently clothed with vegetation to their summits. The city is in strong contrast to this luxuriant scenery, bearing evident marks of decay, particularly in the churches, whose steeples and tile roofs have a dilapidated look. The site of the city does not appear to have been

well chosen, it having apparently been selected entirely for the convenience of commerce, and the communication that the outlet of the lake affords for the bateaux (freight boats) that transport the produce from the shores of the Laguna de Bay to the city.

There are many arms or branches to this stream, which have been converted into canals ; and almost any part of Manila may now be reached in a banca, a small passage boat.

The canal is generally filled with coasting vessels, bateaux from the lake, and lighters for the discharge of the vessels lying in the roads. The bay of Manila is safe, excepting during the change of the monsoons, when it is subject to the typhoons of the China seas, within whose range it lies. These blow at times with much force and cause great damage. Foreign vessels have, however, kept this anchorage, and weathered these storms in safety; but native as well as Spanish vessels seek at these times the port of Cavité, about three leagues to the south-west, at the entrance of the bay, which is perfectly secure. Here the government dock-yard is situated, and this harbor is consequently the resort of the few gun-boats and galleys that are stationed here.

The entrance to the canal or river Pasig is three hundred feet wide, and is enclosed between two well-constructed piers, which extend for some distance into the bay. On the end of one of these is the light-house, and on the other a guard-house. The walls of these piers are about four feet above ordinary high water, and include the natural channel of the river, whose current sets out with some force, particularly when the ebb is making in the bay.

The suburbs, or Binondo quarter, contain more inhabitants than the city itself, and is the commercial town. They have all the stir and life incident to a large population actively engaged in trade, and in this respect the contrast with the city proper is great.

The city of Manila is built in the form of a large segment of a circle, having the chord of the segment on the river ; the whole is strongly fortified with walls and ditches. The

houses are substantially built after the fashion of the mother country. Within the walls are the governor's palace, custom-house, treasury, admiralty, several churches, convents, and charitable institutions, a university, and the barracks for the troops ; it also contains some public squares, on one of which is a bronze statue of Charles IV.

The city is properly deemed the court residence of these islands ; and all those attached to the government, or who wish to be considered as of the higher circle, reside here ; but foreigners are not permitted to do so. The houses in the city are generally of stone, plastered, and white or yellow washed on the outside. They are only two stories high, and in consequence cover a large space, being built around a patio or court-yard.

The ground floors are occupied as store-houses, stables, and for porters' lodges. The second story is devoted to the dining halls and sleeping apartments, kitchens, bath-rooms, etc. The bed-rooms have the windows down to the floor, opening on wide balconies, with blinds or shutters. These blinds are constructed with sliding frames, having small squares of two inches filled in with a thin semi-transparent shell, a species of *Placuna ;* the fronts of some of the houses have a large number of these small lights, where the females of the family may enjoy themselves unperceived.

After entering the canal, we very soon found ourselves among a motley and strange population. On landing, the attention is drawn to the vast number of small stalls and shops with which the streets are lined on each side, and to the crowds of people passing to and fro, all intent upon their several occupations. The artisans in Manila are almost wholly Chinese; and all trades are local, so that in each quarter of the Binondo suburb the privilege of exclusive occupancy is claimed by some particular kinds of shops. In passing up the Escolta (which is the longest and main street in this district) the cabinet-makers seen busily at work in their shops are first met with ; next to these come the tinkers and blacksmiths ; then the shoemakers, clothiers, fishmongers, haberdashers, etc. These are flanked by out-door

occupations ; and in each quarter are numerous cooks frying cakes, stewing, etc., in movable kitchens ; while here and there are to be seen betel-nut sellers, either moving about to obtain customers, or taking a stand in some great thoroughfare. The moving throng, composed of carriers, waiters, messengers, etc., passes quietly and without any noise ; they are generally seen with the Chinese umbrella, painted of many colors, screening themselves from the sun. The whole population wear slippers and move along with a slip-shod gait.

The Chinese are apparently far more numerous than the Malays, and the two races differ as much in character as in appearance ; one is all activity, while the other is disposed to avoid all exertion. They preserve their distinctive character throughout, mixing but very little with each other, and are removed as far as possible in their civilities; the former, from their industry and perseverance, have almost monopolized all the lucrative employments among the lower orders, excepting the selling of fish and betel-nut, and articles manufactured in the provinces. . . .

Of all her foreign possessions, the Philippines have cost Spain the least blood and labor. The honor of their discovery belongs to Magalhaens, whose name is associated with the straits at the southern extremity of the American continent, but which has no memorial in these islands. Now that the glory which he gained by being the first to penetrate from the Atlantic to the Pacific has been in some measure obliterated by the disuse of those straits by navigators, it would seem due to his memory that some spot among these islands should be set apart to commemorate the name of him who made them known to Europe. This would be but common justice to the discoverer of a region which has been a source of so much honor and profit to the Spanish nation, who opened the vast expanse of the Pacific to the fleets of Europe, and who died fighting to secure the benefits of his enterprise to his king and country.

Few portions of the globe seem to be so much the seat of internal fires, or to exhibit the effects of volcanic action

so strongly as the Philippines. During our visit, it was not known that any of the volcanoes were in action; but many of them were smoking, particularly that in the district of Albay, called Isaroc. Its latest eruption was in the year 1839; but this did little damage compared with that of 1814, which covered several villages, and the country for a great distance around, with ashes. This mountain is situated to the south-east of Manila one hundred and fifty miles, and is said to be a perfect cone, with a crater at its apex.

It does not appear that the islands are much affected by earthquakes, although some have occasionally occurred that have done damage to the churches at Manila.

The coal found in the Philippines is deemed of value; it has a strong resemblance to the bituminous coal of our own country, possesses a bright luster, and appears very free from all woody texture when fractured. It is found associated with sandstone, which contains many fossils. Lead and copper are reported as being very abundant; gypsum and limestone occur in some districts. From this it will be seen that these islands have everything in the mineral way to constitute them desirable possessions.

With such mineral resources and a soil capable of producing the most varied vegetation of the tropics, a liberal policy is all that the country lacks. The products of the Philippine Islands consist of sugar, coffee, hemp, indigo, rice, tortoise-shell, hides, ebony, saffron-wood, sulphur, cotton, cordage, silk, pepper, cocoa, wax, and many other articles. In their agricultural operations the people are industrious, although much labor is lost by the use of defective implements. The plow, of a very simple construction, has been adopted from the Chinese; it has no coulter, the share is flat, and being turned partly to one side, answers, in a certain degree the purpose of a mold-board. This rude implement is sufficient for the rich soils, where the tillage depends chiefly upon the harrow, in constructing which a thorny species of bamboo is used. The harrow is formed of five or six pieces of this material, on which the thorns are left, firmly fastened together. It answers its purpose well,

and is seldom out of order. A wrought-iron harrow, that was introduced by the Jesuits, is used for clearing the ground more effectually, and more particularly for the purpose of extirpating a troublesome grass that is known by the name of cogon (a species of *Andropogon*), of which it is very difficult to rid the fields. The bolo or long-knife, a basket, a hoe, complete the implements, and answer all the purposes of our spades, etc.

The buffalo was used until within a few years exclusively in their agricultural operations, and they have lately taken to the use of the ox ; but horses are never used. The buffalo, from the slowness of his motions, and his exceeding restlessness under the heat of the climate, is ill adapted to agricultural labor ; but the natives are very partial to them, notwithstanding they occasion them much labor and trouble in bathing them during the great heat. This is absolutely necessary, or the animal becomes so fretful as to be unfit for use. If it were not for this, the buffalo would, notwithstanding his slow pace, be most effective in agricultural operations ; he requires little food, and that of the coarsest kind ; his strength surpasses that of the stoutest ox, and he is admirably adapted for the rice or paddy fields. They are very docile when used by the natives, and even children can manage them; but it is said they have a great antipathy to the whites and all strangers. The usual mode of guiding them is by a small cord attached to the cartilage of the nose. The yoke rests on the neck before the shoulders, and is of simple construction. To this is attached whatever it may be necessary to draw, either by traces, shafts, or other fastenings. Frequently these animals may be seen with large bundles of bamboo lashed to them on each side. Buffaloes are to be met with on the lake with no more than their noses and eyes out of the water, and are not visible until they are approached within a few feet, when they cause alarm to the passengers by raising their large forms close to the boat. It is said that they resort to the lake to feed on a favorite grass that grows on its bottom in shallow water, and which they dive for. Their flesh is not eaten, except

that of the young ones, for it is tough and tasteless. The milk is nutritious, and of a character between that of the goat and the cow.

Rice is, perhaps, of their agricultural products, the article upon which the inhabitants of the Philippine Islands most depend for food and profit ; of this they have several different varieties, which the natives distinguish by their size and the shape of the grain: the birnambang, lamuyo, malagequit, bontot-cabayo, dumali, quinanda, bolohan, and tangi. The first three are aquatic, the latter five upland varieties. They each have their peculiar uses. The dumali is the early variety ; it ripens in three months from planting, from which circumstance it derives its name; it is raised exclusively on the uplands. Although much esteemed, it is not extensively cultivated, as the birds and insects destroy a large part of the crop.

The malagequit is very much prized, and used for making sweet and fancy dishes; it becomes exceedingly glutinous, for which reason it is used in making whitewash, which it is said to cause to become of a brilliant white, and to withstand the weather. This variety is not, however, believed to be wholesome. There is also a variety of this last species which is used as food for horses, and supposed to be a remedy and preventive against worms.

The rice grounds or fields are laid out in squares, and surrounded by embankments, to retain the water of the rains or streams. After the rains have fallen in sufficient quantities to saturate the ground, a seed-bed is generally planted in one corner of the field, in which the rice is sown broadcast, about the month of June. The heavy rains take place in August, when the fields are plowed, and are soon filled with water. The young plants are about this time taken from the seed-bed, their tops and roots trimmed, and then planted in the field by making holes in the ground with the fingers and placing four or five sprouts in each of them ; in this tedious labor the poor women are employed, whilst the males are lounging in their houses or in the shade of the trees.

The harvest for the aquatic rice begins in December. It is reaped with small sickles, peculiar to the country, called yatap ; to the back of these a small stick is fastened, by which they are held, and the stalk is forced upon it and cut. The spikes of rice are cut with this implement, one by one. In this operation, men, women and children, all take part.

The upland rice requires much more care and labor in its cultivation. The land must be plowed three or four times, and all the turf and lumps well broken up by the harrow.

During its growth it requires to be weeded two or three times, to keep the weeds from choking the crop. The seed is sown broadcast in May. This kind of rice is harvested in November, and to collect the crop is still more tedious than in the other case, for it is always gathered earlier and never reaped, in consequence of the grain not adhering to the ear. If it were gathered in any other way, the loss by transportation on the backs of buffaloes and horses, without any covering to the sheaf, would be so great as to dissipate a great portion of the crop.

After the rice is harvested, there are different modes of treating it. Some of the proprietors take it home, where it is thrown into heaps and left until it is desirable to separate it from the straw, when it is trodden out by men and women with their bare feet. For this operation they usually receive a fifth part of the rice.

Others stack it in a wet and green state, which subjects it to heat, from which cause the grain contracts a dark color and an unpleasant taste and smell. The natives, however, impute these defects to the wetness of the season.

The crop of both the low and upland rice is usually from thirty to fifty for one, this on old land ; but on that which is newly cleared, or which has never been cultivated, the yield is far beyond this. In some soils of the latter description, it is said that for a chupa (seven cubic inches) planted the yield has been a caban. The former is the two-hundred-and-eighth part of the latter. This is not the only

advantage gained in planting rice lands, but the saving of labor is equally great ; for all that is required is to make a hole with the fingers and place three or four grains in it. The upland rice requires but little water, and is never irrigated.

The cultivator in the Philippine Islands is always enabled to secure plenty of manure; for vegetation is so luxuriant that by pulling the weeds and laying them with earth a good stock is quickly obtained with which to cover his fields. Thus, although the growth is so rank as to cause him labor, yet in this hot climate its decay is equally rapid, which tends to make his labors more successful.

Among the important productions of these islands I have mentioned hemp, although the article called Manila hemp must not be understood to be derived from the plant which produces the common hemp (*Canibis*), being obtained from a species of plantain (*Musa textilis*), called in the Philippines "abaca." This is a native of these islands, and was formerly believed to be found only on Mindanao ; but this is not the case, for it is cultivated on the south part of Luzon and all the islands south of it. It grows on high ground, in rich soil, and is propagated by seeds. It resembles the other plants of the tribe of plantains, but its fruit is much smaller, although edible. The fiber is derived from the stem, and the plant attains the height of fifteen or twenty feet. The usual mode of preparing the hemp is to cut off the stem near the ground, before the time or just when the fruit is ripe. The stem is then eight or ten feet long below the leaves, where it is again cut. The outer coating of the herbaceous stem is then stripped off, until the fibers or cellular parts are seen, when it undergoes the process of rotting, and after being well dried in houses and sheds, is prepared for market by assorting it, a task which is performed by the women and children. That which is intended for cloth is soaked for an hour or two in weak lime-water prepared from sea-shells, again dried, and put up in bundles. From all the districts in which it grows, it is sent to Manila, which is the only port whence it can legally be

exported. It arrives in large bundles, and is packed there by means of a screw-press in compact bales for shipping, secured by rattan, each weighing two piculs. [A picul is about one hundred and forty pounds.]

The best Manila hemp ought to be white, dry, and of a long and fine fiber. This is known at Manila by the name of lupis ; the second quality they call bandala.

That which is brought to the United States is principally manufactured in or near Boston, and is the cordage known as "white rope." The cordage manufactured at Manila is, however, very superior to the rope made with us, although the hemp is of the inferior kind. A large quantity is also manufactured into mats.

In the opinion of our botanist, it is not probable that the plant could be introduced with success into our country, for in the Philippines it is not found north of latitude 14° N.

The coffee-plant is well adapted to these islands. A few plants were introduced into the gardens of Manila about fifty years ago, since which time it has been spread all over the island, as is supposed, by the civet-cats, which, after swallowing the seeds, carry them to a distance before they are voided.

The coffee of commerce is obtained here from the wild plant, and is of an excellent quality. Upward of three thousand five hundred piculs are now exported, of which one-sixth goes to the United States.

The sugar-cane thrives well here. It is planted after the French fashion, by sticking the piece diagonally into the ground. Some, finding the cane has suffered in times of drought, have adopted other modes. It comes to perfection in a year, and they seldom have two crops from the same piece of land, unless the season is very favorable.

There are many kinds of cane cultivated, but that grown in the valley of Pampanga is thought to be the best. It is a small, red variety, from four to five feet high, and not thicker than the thumb. The manufacture of the sugar is rudely conducted ; and the whole business, I was told, was

in the hands of a few capitalists, who, by making advances, secure the whole crop from those who are employed to bring it to market. It is generally brought in molds of the usual conical shape, called pilones, which are delivered to the purchaser from November to June, and contain each about one hundred and fifty pounds. On their receipt they are placed in large store-houses, where the familiar operation of claying is performed. The estimate for the quantity of sugar from these pilones after this process is about one hundred pounds ; it depends upon the care taken in the process.

Of cotton they raise a considerable quantity, and principally of the yellow nankeen. In the province of Ylocos it is cultivated most extensively. The mode of cleaning it of its seed is very rude, by means of a hand-mill, and the expense of cleaning a picul (one hundred and forty pounds) is from five to seven dollars. There have, as far as I have understood, been no endeavors to introduce any cotton-gins from our country.

It will be merely necessary to give the prices at which laborers are paid to show how the compensation is in comparison with that in our country. In the vicinity of Manila, twelve and a half cents per day is the usual wages ; this in the provinces falls to six and nine cents. A man with two buffaloes is paid about thirty cents. The amount of labor performed by the latter in a day would be the plowing of a soane, about two-tenths of an acre. The most profitable way of employing laborers is by the task, when, it is said, the natives work well, and are industrious.

The manner in which the sugar and other produce is brought to market at Manila is peculiar, and deserves to be mentioned. In some of the villages the chief men unite to build a vessel, generally a pirogue, in which they embark their produce, under the conduct of a few persons, who go to navigate it and dispose of the cargo. In due time they make their voyage, and when the accounts are settled, the returns are distributed to each according to his share. Festivities are then held, the saints thanked for their kindness,

and blessings invoked for another year. After this is over, the vessel is taken carefully to pieces, and distributed among the owners, to be preserved for the next season.

The profits in the crops, according to estimates, vary from sixty to one hundred per cent.; but it was thought, as a general average, that this was, notwithstanding the great productiveness of the soil, far beyond the usual profits accruing from agricultural operations. In some provinces this estimate would hold good, and probably be exceeded.

Indigo would probably be a lucrative crop, for that raised here is said to be of a quality equal to the best, and the crop is not subject to so many uncertainties as in India; the capital and attention required in vats, etc., prevent it from being raised in any quantities. Among the productions, the bamboo and rattan ought to claim a particular notice from their great utility; they enter into almost everything. Of the former their houses are built, including frames, floors, sides and roof; fences are made of the same material, as well as every article of general household use, including baskets for oil and water. The rattan is a general substitute for ropes of all descriptions, and the two combined are used in constructing rafts for crossing ferries.

The crops frequently suffer from the ravages of the locusts, which sweep all before them. Fortunately for the poorer classes, their attacks take place after the rice has been harvested; but the cane is sometimes entirely cut off. The authorities of Manila, in the vain hope of stopping their devastations, employ persons to gather them and throw them into the sea. I understood on one occasion they had spent $80,000 in this way, but all to little purpose. It is said that the crops rarely suffer from droughts, but on the contrary the rains are thought to fall too often and to flood the rice fields; these, however, yield a novel crop, and are very advantageous to the poor, viz.: a great quantity of fish, which are called dalag, and are a species of Blunnius; they are so plentiful that they are caught with baskets; these fish weigh from a half to two pounds, and some are said to be eighteen inches long; but this is not all; they

are said, after a deep inundation, to be found even in the vaults of churches.

The Philippines are divided into thirty-one provinces, sixteen of which are on the island of Luzon, and the remainder comprise the other islands of the group and the Ladrones.

The population of the whole group is above three millions, including all tribes of natives, mestizoes, and whites. The latter-named class are but few in number, not exceeding 3000. The mestizoes were supposed to be about 15,000 or 20,000 ; they are distinguished as Spanish and Indian mestizoes. The Chinese have of late years increased to a large number, and it is said that there are 40,000 of them in and around Manila alone. One-half of the whole population belongs to Luzon. The island next to it in number of inhabitants is Panay, which contains about 330,000. Then come Zebu, Mindanao, Leyte, Samar, and Negros, varying from the above numbers down to 50,000. The population is increasing, and it is thought that it doubles itself in seventy years. This rate of increase appears probable, from a comparison of the present population with the estimate made at the beginning of the present century, which shows a growth in forty years of about 1,400,000.

The native population is composed of a number of distinct tribes, the principal of which in Luzon are Pangarihan, Ylocos, Cagayan, Tagala, and Pampangan.

The Irogotes, who dwell in the mountains, are the only natives who have not been subjected by the Spaniards. The other tribes have become identified with their rulers in religion, and it is thought that by this circumstance alone has Spain been able to maintain the ascendency, with so small a number, over such a numerous, intelligent, and energetic race as they are represented to be. This is, however, more easily accounted for, from the Spaniards fostering and keeping alive the jealousy and hatred that existed at the time of the discovery between the different tribes.

It seems almost incredible that Spain should have so long persisted in the policy of allowing no more than one

galleon to pass annually between her colonies, and equally so that the nations of Europe should have been so long deceived in regard to the riches and wealth that Spain was monopolizing in the Philippines. The capture of Manila, in 1762, by the English, first gave a clear idea of the value of this remote and little-known appendage of the empire.

The Philippines, considered in their capacity for commerce, are certainly among the most favored portions of the globe, and there is but one circumstance that tends in the least degree to lessen their apparent advantage ; this is the prevalence of typhoons in the China seas, which are occasionally felt with force to the north of latitude 10° N. South of that parallel they have never been known to prevail, and seldom so far ; but from their unfailing occurrence yearly in some part of the China seas, they are looked for with more or less dread, and cause each season a temporary interruption in all the trade that passes along the coast of these islands.

The army is now composed entirely of native troops, who number about 6000 men, and the regiments are never suffered to serve in the provinces in which they are recruited, but those from the North are sent to the South, and *vice versa*. There they are employed to keep a continual watch on each other ; and, speaking different dialects, they never become identified.

They are, indeed, never allowed to remain long enough in one region to imbibe any feelings in unison with those of its inhabitants. The hostility is so great among the regiments that mutinies have occurred, and contests arisen which have produced even bloodshed, which it was entirely out of the power of the officers to prevent. In cases of this kind, summary punishment is resorted to.

Although the Spaniards, as far as is known abroad, live in peace and quiet, this is far from being the case ; for rebellion and revolts among the troops and tribes are not infrequent in the provinces. During the time of our visit one of these took place, but it was impossible to learn anything concerning it that could be relied upon, for all con-

versation respecting such occurrences is interdicted by the government. The difficulty to which I refer was said to have originated from the preaching of a fanatic priest, who inflamed them to such a degree that they overthrew the troops and became temporarily masters of the country. Prompt measures were immediately taken, and orders issued to give the rebels no quarter ; the regiments most hostile to those in the revolt were ordered to the spot ; they spared no one ; the priest and his companions were taken, put to death, and, according to report, in a manner so cruel as to be a disgrace to the records of the nineteenth century. Although I should hope the accounts I heard of these transactions were incorrect, yet the detestation these acts were held in would give some color to the statements.

The few gazettes that are published at Manila are entirely under the control of the government ; and a resident of that city must make up his mind to remain in ignorance of the things that are passing around him, or believe just what the authorities will allow to be told, whether truth or falsehood. The government of the Philippines is emphatically an iron rule ; how long it can continue so is doubtful.

The natives of the Philippines are industrious. They manufacture an amount of goods sufficient to supply their own wants, particularly from Panay and Ylocos. These, for the most part, consist of cotton and silks, and a peculiar article called pina. The latter is manufactured from a species of *Bromelia* (pine-apple), and comes principally from the island of Panay. The finest kinds of pina are exceedingly beautiful and surpass any other material in its evenness and beauty of texture. Its color is yellowish, and the embroidery is fully equal to the material. It is much sought after by all strangers, and considered as one of the curiosities of this group. Various reports have been stated of the mode of its manufacture, and among others that it was woven under water, which I found, upon inquiry, to be quite erroneous. The web of the pina is so fine that they are obliged to prevent all currents of air from passing through the rooms where it is manufactured, for which purpose there

are gauze screens in the windows. After the article is brought to Manila, it is then embroidered by girls; this last operation adds greatly to its value.

The market is a never-failing place of amusement to a foreigner ; for there a crowd of the common people is always to be seen, and their mode of conducting business may be observed. The canals here afford great facilities for bringing vegetables and produce to market in a fresh state. The vegetables are chiefly brought from the shores of the Laguna de Bay, through the river Pasig. The meat appeared inferior, and as in all Spanish places, the art of butchering is not understood. The poultry, however, surpasses that of any other place I have seen, particularly in ducks, the breeding of which is pursued to a great extent. Establishments for breeding these birds are here carried on in a systematic manner, and are a great curiosity. They consist of many small inclosures, each about twenty feet by forty or fifty, made of bamboo, which are placed on the bank of the river, and partly covered with water. In one corner of the inclosure is a small house, where the eggs are hatched by artificial heat, produced by rice-chaff in a state of fermentation. It is not uncommon to see six or eight hundred ducklings all of the same age. There are several hundreds of these inclosures, and the number of ducks of all ages may be computed at millions. The manner in which they are schooled to take exercise, and to go in and out of the water, and to return to their house, almost exceeds belief. The keepers or tenders are of the Tagala tribe, who live near the inclosures, and have them at all times under their eye. The old birds are not suffered to approach the young, and all of one age are kept together. They are fed upon rice and a small species of shell-fish that is found in the river and is peculiar to it. From the extent of these establishments we inferred that ducks were the favorite article of food at Manila, and the consumption of them must be immense. The markets are well supplied with chickens, pigeons, young partridges, which are brought in alive, and turkeys. Among strange articles that we saw for sale were

cakes of coagulated blood. The markets are well stocked with a variety of fish, taken both in the Laguna and bay of Manila, affording a supply of both the fresh and salt water species, and many smaller kinds that are dried and smoked. Vegetables are in great plenty, and consist of pumpkins, lettuce, onions, radishes, very long squashes, etc.; of fruits they have melons, chicos, durians, marbolas, and oranges.

Fish are caught in weirs, by the hook, or in seines. The former are constructed of bamboo stakes, in the shallow water of the lake, at the point where it flows through the river Pasig. In the bay, and at the mouth of the river, the fish are taken in nets, suspended by the four corners from hoops attached to a crane, by which they are lowered into the water. The fishing-boats are little better than rafts, and are called saraboas.

The usual passage-boat is termed banca, and is made of a single trunk. These are very much used by the inhabitants. They have a sort of awning to protect the passenger from the rays of the sun ; and being light are easily rowed about, although they are exceedingly uncomfortable to sit in, from the lowness of the seats, and liable to overset if the weight is not placed near the bottom. The outrigger has in all probability been dispensed with, owing to the impediment it offered to the navigation of their canals; these canals offer great facilities for the transportation of burdens ; the banks of almost all of them are faced with granite. Where the streets cross them, there are substantial stone bridges, which are generally of no more than one arch, so as not to impede the navigation. The barges used for the transportation of produce resemble our canal-boats, and have sliding roofs to protect them from the rain.

Water for the supply of vessels is brought off in large earthen jars. It is obtained from the river, and if care is not taken, the water will be impure ; it ought to be filled beyond the city. Our supply was obtained five or six miles up the river by a lighter, in which were placed a number of water-casks. It proved excellent.

The country around Manila, though no more than an

extended plain for some miles, is one of great interest and beauty, and affords many agreeable rides on the roads to Santa Anna and Maraquino. Most of the country-seats are situated on the river Pasig ; they may indeed be called palaces, from their extent and appearance. They are built upon a grand scale, and after the Italian style, with terraces, supported by strong abutments, decked with vases of plants. The grounds are ornamented with the luxuriant, lofty, and graceful trees of the tropics; these are tolerably well kept. Here and there fine large stone churches, with their towers and steeples, are to be seen, the whole giving the impression of a wealthy nobility and a happy and flourishing peasantry.

OCEANIA

Exploration of Teneriffe

By A. VON HUMBOLDT

AN expedition to the summit of the volcano of Teneriffe is interesting, not solely on account of the great number of phenomena which are the objects of scientific research; it has still greater attractions from the picturesque beauties which it lays open to those who are feelingly alive to the majesty of nature. It is a difficult task to describe those sensations, which act with so much the more force as they have something undefined, produced by the immensity of the space as well as by the greatness, the novelty and the multitude of the objects, amidst which we find ourselves transported. When a traveler attempts to furnish descriptions of the loftiest summits of the globe, the cataracts of the great rivers, the tortuous valleys of the Andes, he is exposed to the danger of fatiguing his readers, by the monotonous expression of his admiration. It appears to me more conformable to the plan which I have proposed to myself in this narrative, to indicate the peculiar character that distinguishes each zone ; we exhibit with more clearness the physiognomy of the landscape in proportion as we endeavor to sketch its individual features, to compare them with each other, and discover by this kind of analysis the sources of those enjoyments which are offered to us by the great picture of nature.

Travelers have learned by experience that views from the summits of very lofty mountains are neither so beautiful,

picturesque, nor varied, as those from heights which do not exceed that of Vesuvius, Rigi and Puy-de-Dôme. Colossal mountains, such as Chimborazo, Antisana, or Mount Rose, compose so large a mass, that the plains covered with rich vegetation are seen only in the immensity of distance, where a blue and vapory tint is uniformly spread over the landscape. The Peak of Teneriffe, from its slender form and local position, unites the advantages of less lofty summits, to those which arise from very great heights. We not only discover from its top a vast expanse of sea, but we see also the forests of Teneriffe, and the inhabited parts of the coasts, in a proximity fitted to produce the most beautiful contrasts of form and color. We might say that the volcano crushes with its mass the little isle which serves as its basis, and shoots up from the bosom of the waters to a height three times loftier than the region where the clouds float in summer. If its crater, half extinguished for ages past, shot forth flakes of fire like that of Stromboli in the Æolian islands, the Peak of Teneriffe, resembling a light-house, would furnish a direction to the mariner in a circuit of more than two hundred and sixty leagues.

When seated on the external edge of the crater, we turned our eyes toward the north-west, where the coasts are decked with villages and hamlets. At our feet masses of vapor, constantly driven by the winds, afforded us the most variable spectacle. A uniform stratum of clouds, the same as we have just described, and which separated us from the lower regions of the island, had been pierced in several places by the effect of the small currents of air, which the earth, heated by the sun, began to send toward us. The port of Orotava, its vessels at anchor, the gardens and the vineyards which encircle the town, exhibited themselves through an opening which seemed to enlarge every instant. From the summit of these solitary regions our eyes hovered over an inhabited world; we enjoyed the striking contrast between the bare sides of the Peak, its steep declivities covered with scoriæ, its elevated plains destitute of vegetation, and the smiling aspect of the cultured country

beneath; we beheld the plants divided by zones, as the temperature of the atmosphere diminished with the height of the site. Below the Piton, lichens begin to cover the scorious lava with lustered surface ; a violet, akin to the viola decumbens, rises on the slope of the volcano at a height of 11,310 feet; it takes the lead not only of the other herbaceous plants, but even of the graminea, which, in the Alps and on the ridge of the Cordilleras, form close neighborhood with the plants of the family of cryptogamia. Tufts of retama, loaded with flowers, make gay the valleys hollowed out by the torrents, and which are encumbered by the effects of the lateral eruptions ; below the spartium, or retama, lies the region of ferns, bordered by the tract of the arborescent heaths. Forests of laurel, rhamnus, and arbutus, divide the ericas from the rising grounds planted with vines and fruit trees. A rich carpet of verdure extends from the plains of spartium, and the zone of the alpine plants even to the group of the date trees and the musa, at the feet of which the ocean appears to roll. I here pass slightly over the different features of this botanical chart, as I shall enter hereafter into some further details respecting the geography of the plants of the Isle of Teneriffe.

The seeming proximity, in which, from the summit of the Peak, we behold the hamlets, the vineyards, the gardens on the coast, is increased by the prodigious transparency of the atmosphere. Notwithstanding the great distance, we distinguished not only the houses, the sails of the vessels, and the trunks of trees, our eyes dwelt on the rich vegetation of the plains, enameled with the most vivid coloring. These phenomena are owing not only to the height of the site, but to the peculiar modifications of the air in warm climates. Under every zone, an object placed on a level with the sea, and viewed in a horizontal direction, appears less luminous than when seen from the top of a mountain, when vapors arrive across strata of air of decreasing density. Differences equally striking are produced by the influence of climates ; the surface of a lake or large river is less resplendent when we see it at an equal distance, from

the top of the higher Alps of Switzerland than when we view it from the summit of the Cordilleras of Peru and Mexico. In proportion as the air is pure and serene, the solution of the vapors becomes more perfect, and the light loses less in its passage. When from the coast of the South Sea we reach the elevated plains of Quito, or that of Antisana, we are struck for some days at the nearness at which we think we see objects which are seven or eight leagues distant. The Peak of Teyde has not the advantage of being situated in the equinoctial region ; but the dryness of the columns of air which rise perpetually above the neighboring plains of Africa, and which the eastern winds bring with rapidity, gives the atmosphere of the Canary Islands a transparency which surpasses not only that of the air of Naples and Sicily, but perhaps also the purity of the sky of Quito and Peru. This transparency may be regarded as one of the chief causes of the beauty of the landscape under the torrid zone; it is this which brightens the splendor of the vegetable coloring and contributes to the magical effect of their harmonies and their contrasts. If a mass of light, which circulates about objects, fatigues the external senses during a part of the day, the inhabitant of the southern climates has his compensation in moral enjoyments. A lucid clearness in the conceptions, a serenity of mind, correspond with the transparency of the surrounding atmosphere. We feel these impressions without overstepping the limits of Europe. I appeal to travelers who have visited countries rendered famous by prodigies of the imagination and the arts, the favored climates of Greece and Italy.

We prolonged in vain our stay on the summit of the Peak, to wait the moment when we might enjoy the view of the whole of the Archipelago of the Fortunate Islands. We discovered Palma, Gomera, and the Great Canary, at our feet. The mountains of Lanzerota, free from vapors at sunrise, were soon enveloped in thick clouds. On a supposition only of an ordinary refraction, the eye takes in, in calm weather, from the summit of the volcano, a surface of the globe of 5700 square leagues, equal to a fourth of the sur-

face of Spain. The question has often been agitated, if it were possible to perceive the coast of Africa from the top of this colossal pyramid ; but the nearest parts of this coast are still farther from Teneriffe than 2° 49′, or fifty-six leagues.

OCEANIA

The Island of Trinidad

By JAMES ANTHONY FROUDE

TRINIDAD is the largest, after Jamaica, of the British West Indian Islands, and the hottest absolutely after none of them. It is square-shaped, and, I suppose, was once a part of South America. The Orinoco River and the ocean-currents between them have cut a channel between it and the mainland, which has expanded into a vast shallow lake known as the Gulf of Paria. The two entrances by which the gulf is approached are narrow, and are called *bocas*, or mouths—one the Dragon's Mouth, the other the Serpent's. When the Orinoco is in flood the water is brackish, and the brilliant violet hue of the Caribbean Sea is changed to a dirty yellow; but the harbor which is so formed would hold all the commercial navies of the world, and seems formed by nature to be the depot one day of an enormous trade.

The town has between thirty and forty thousand people living in it, and the rain and the Johnny crows, a black vulture that acts as scavenger between them, keep off pestilence. Outside is a large savanna or park, where the villas are of the successful men of business. One of these belonged to my host, a cool, airy habitation, with open doors and windows, overhanging portico, and rooms into which all the winds might enter, but not the sun. A garden in front was shut off from the savanna by a fence of bananas. At the gate stood as sentinel a cabbage-palm a hundred

feet high; on the lawn mangoes, oranges, papaws, and bread-fruit-trees, strange to look at, but luxuriantly shady. Before the door was a tree of good dimensions, whose name I have forgotten, the stem and branches of which were hung with orchids which G—— had collected in the woods.

The borders were blazing with varieties of the single hibiscus, crimson, pink, and fawn-color, the largest that I had even seen. The average diameter of each single flower was from seven to eight inches. Wind streamed freely through the long sitting-room, loaded with the perfume of orange-trees; on table and in bookcase were visible evidences of a highly cultivated taste. The particular room assigned to myself would have been delightful, but that my possession of it was disputed, even in daylight, by mosquitoes, who for bloodthirsty ferocity had a bad preëminence over the worst that I had ever met with elsewhere. I killed one who was at work upon me, and examined him through a glass. Bewick, with the inspiration of genius, had drawn his exact likeness as the devil—a long black stroke for a body, a nick for a neck, horns on the head, and a beak for a mouth, spindle arms, and longer spindle legs, two pointed wings, and a tail. Line for line, there the figure was before me, which in the unforgetable tail-piece is driving the thief under the gallows, and I had a melancholy satisfaction in identifying him. I had been warned to be on the lookout for scorpions, centipedes, jiggers, and land-crabs, who would bite me if I walked slipperless over the floor in the dark. Of these I met with none, either there or anywhere, but the mosquito of Trinidad is enough by himself. For malice, mockery, and venom of tooth and trumpet he is without a match in the world.

From mosquitoes, however, one could seek safety in tobacco-smoke, or hide behind the lace curtains with which every bed is provided. Otherwise I found every provision to make life pass deliciously. To walk is difficult in a damp, steamy atmosphere, hotter during daylight than the hottest forcing-house in Kew. . . . Beautiful, however, it was beyond dispute. Before sunset a carriage took

us around the savanna. Tropical human beings, like tropical birds, are fond of fine colors, especially black human beings, and the park was as brilliant as Kensington Gardens on a Sunday. At nightfall the scene became even more wonderful, air, grass, and trees being alight with fire-flies, each as brilliant as an English glow-worm. The palm-tree at our own gate stood like a ghostly sentinel clear against the starry sky, a single long dead frond hanging from below the coronet of leaves and clashing against the stem as it was blown to and fro by the night wind, while long-winged bats swept and whistled over our heads.

The "Residence" stands in a fine situation, in large grounds of its own, at the foot of the mountains. It has been lately built, regardless of expense, for the colony is rich, and likes to do things handsomely. On the lawn, under the windows, stood a tree which was entirely new to me, an enormous ceiba or silk-cotton-tree, umbrella-shaped, fifty yards in diameter, the huge and buttressed trunk throwing out branches so massive that one wondered how any woody fiber could bear the strain of their weight, the boughs twisting in and out till they made a roof over one's head, which was hung with every fantastic variety of parasites.

Vast as the ceibas were which I saw afterward in other parts of the West Indies, this was the largest. The ceiba is the sacred tree of the negro, the temple of Jumbi, the proper house of Obeah. To cut down one is impious. No black in his right mind would wound even the bark. A Jamaica police officer told me that if a ceiba had to be removed the men who used the ax were well dosed with rum to give them courage to defy the devil.

From Government House we strolled into the adjoining Botanical Gardens. I had long heard of the wonders of these. The reality went beyond description. Plants with which I was familiar as *shrubs* in English conservatories were here expanded into forest giants, with hundreds of others of which we cannot raise even Liliputian imitations. Let man be what he will, nature in the tropics is always grand. Palms were growing in the greatest luxuriance, of

every known species, from the cabbage towering up into the sky to the fan-palm of the desert whose fronds are reservoirs of water.

Of exogenous trees the majority were leguminous in some shape or other, forming flowers like a pea or vetch and hanging their seeds in pods ; yet in shape and foliage they distanced far the most splendid ornaments of an English park. They had Old-World names and characters wholly different ; cedars which were not conifers, almonds which were no relations of peaches, and gum-trees as unlike eucalypti as one tree can be unlike another.

Again, you saw ferns which you seemed to recognize till some unexpected anomaly startled you out of your mistake. A gigantic Portugal laurel, or what I took for such, was throwing out a flower direct from the stem like a cactus. Grandest among them all, and happily in full bloom, was the sacred tree of Burmah, the *Amherstia nobilis*, at a distance like a splendid horse-chestnut, with crimson blossoms in pendant bunches, each separate flower in the convolution of its parts exactly counterfeiting a large orchid, with which it had not the faintest affinity, the Amherstia being leguminous like the rest.

Underneath, and dispersed among the imperial beauties, were spice-trees, orange-trees, coffee plants, and cocoa, or again, shrubs with special virtues or vices. We had to be careful what we were about, for fruits of fairest appearance were tempting us all round. My companion was preparing to eat something to encourage me to do the same. A gardener stopped him in time. It was nux vomica. I was straying along a less frequented path, conscious of a heavy vaporous odor, in which I might have fainted had I remained exposed to it. I was close to a manchineel-tree.

Prettiest and freshest were the nutmegs, which had a glen all to themselves and perfumed the surrounding air. In Trinidad and in Grenada I believe the nutmegs are the largest that are known, being from thirty to forty feet high; leaves brilliant green, something like the leaves of an orange, but extremely delicate and thin, folded one over the other,

the lowest branches sweeping to the ground till the whole tree forms a natural bower, which is proof against a tropical shower. The fragrance attracts moths and flies; not mosquitoes, who prefer a ranker atmosphere. I saw a pair of butterflies the match of which I do not remember even in any museum, dark blue shot with green like a peacock's neck, and the size of English bats. I asked a black boy to catch me one. "That sort no let catchee, massa," he said ; and I was penitently glad to hear it.

Among the wonders of the garden are the vines, as they call them, that is, the creepers of various kinds that climb about the other trees. Standing in an open space there was what once had been a mighty cedar. It was now dead, only the trunk and dead branches remaining, and had been murdered by a fig-vine which had started from the root, twined itself like a python round the stem, strangled out the natural life, and spreading out in all directions, had covered boughs and twigs with a foliage not its own. So far the vine had done no worse than ivy does at home, but there was one feature about it which puzzled me altogether. The lowest of the original branches of the cedar were about twenty feet above our heads. From these in four or five places the parasite had let fall shoots, perhaps an inch in diameter, which descended to within a foot of the ground and then suddenly, without touching that or anything, formed a bight like a rope, went straight up again, caught hold of the branch from which they started, and so hung suspended exactly as an ordinary swing.

In three distinctly perfect instances the vine had executed this singular evolution, while at the extremity of one of the longest and tallest branches high up in the air it had made a clean leap of fifteen feet without visible help and had caught hold of another tree adjoining on the same level. These performances were so inexplicable that I conceived that they must have been a freak of the gardener's. I was mistaken. He said that at particular times in the year the fig-vine threw out fine tendrils which hung downward like strings. The strongest among them would lay hold of two

or three others and climb up upon them, the rest would die and drop off, while the successful one, having found support for itself above, would remain swinging in the air and thicken and prosper. The leap he explained by the wind. I retained a suspicion that the wind had been assisted by some aspiring energy in the plant itself, so bold it was and so ambitious.

But the wonders of the garden were thrown into the shade by the cottage at the extreme angle of it, where Charles Kingsley had been the guest of Sir Arthur Gordon. It is a long straggling wooden building with deep verandas lying in a hollow overshadowed by trees, with views opening out into the savanna through arches formed by clumps of tall bamboos, the canes growing thick in circular masses and shooting up a hundred feet into the air, where they meet and form frames for the landscape, peculiar and even picturesque when there are not too many of them. These bamboos were Kingsley's special delight, as he had never seen the like of them elsewhere. The room in which he wrote is still shown, and the gallery where he walked up and down with his long pipe. His memory is cherished in the island as of some singular and beautiful presence which still hovers about the scenes which so delighted him in the closing evening of his own life.

In Trinidad there are 18,000 freeholders, most of them negroes and representatives of the old slaves. Their cabins are spread along the road on either side, overhung with bread-fruit-trees, tamarinds, calabash-trees, out of which they make their cups and water-jugs; the luscious granadilla climbs among the branches; plantains throw their cool shade over the doors; oranges and limes and citrons perfume the air, and droop their boughs under the weight of their golden burdens. There were yams in the gardens and cows in the paddocks, and cocoa-bushes loaded with purple or yellow pods. Children played about in swarms in happy idleness and abundance, with schools, too, at intervals, and an occasional Catholic chapel, for the old religion prevails in Trinidad, never having been disturbed.

What form could human life assume more charming than that which we were now looking on ? Once more, the earth does not contain any peasantry so well off, so well cared for, so happy, so sleek and contented as the sons and daughters of the emancipated slaves in the English West Indian Islands. Sugar may fail the planter, but cocoa, which each peasant can grow with small effort for himself, does not fail and will not. He may "better his condition," if he has any such ambition, without stirring beyond his own ground, and so far, perhaps, his ambition may extend, if it is not turned off upon politics.

Even the necessary evils of the tropics are not many or serious. His skin is proof against mosquitoes. There are snakes in Trinidad as there were snakes in Eden. "Plenty snakes," said one of them who was at work in his garden, "plenty snakes, but no bitee." As to costume, he would prefer the costume of innocence if he were allowed. Clothes in such a climate are superfluous for warmth, and to the minds of the negroes, unconscious as they are of shame, superfluous for decency. European prejudice, however, still passes for something; the women have a love for finery, which would prevent a complete return to African simplicity; and in the islands which are still French, and in those like Trinidad, which the French originally colonized, they dress themselves with real taste. They hide their wool in red or yellow handkerchiefs, gracefully twisted ; or perhaps it is not only to conceal the wool. Columbus found the Carib women of the island dressing their hair in the same fashion.

The water-works, when we reached them, were even more beautiful than we had been taught to expect. A dam has been driven across a perfectly limpid mountain stream; a wide open area has been cleared, leveled, strengthened with masonry, and divided into deep basins or reservoirs, through which the current continually flows. Hedges of hibiscus shine with crimson blossoms. Innumerable humming-birds glance to and fro among the trees and shrubs, and gardens and ponds are overhung by magnificent bamboos, which so astonished me by their size that I inquired

if their height had been measured. One of them, I was told, had lately fallen, and was found to be one hundred and thirty feet long. A single drawback only there was to this enchanting spot, and it was again the snakes. There are huge pythons in Trinidad which are supposed to have crossed the straits from the continent. Some washerwomen at work in the stream had been disturbed a few days before our visit by one of these monsters, who had come down to see what they were about. They are harmless, but trying to the nerves.

The train from Porus brought us back to Kingston an hour before sunset. The evening was lovely, even for Jamaica. The sea-breeze had fallen, the land-breeze had not risen, and the dust lay harmless on road and hedge. Cherry Garden, to which I was bound, was but seven miles distant by the direct road, so I calculated on a delightful drive which would bring me to my destination before dark.

So I calculated ; but alas! for human expectation. I engaged a "buggy" at the station, with a decent-looking conductor, who assured me that he knew the way to Cherry Garden as well as to his own door. His horse looked starved and miserable. He insisted that there was not another in Kingston that was more than a match for it. We set out, and for the first two or three miles we went on well enough, conversing amicably on things in general. But it so happened that it was market day. The road was thronged with women plodding along with their baskets on their heads, a single male on a donkey to each detachment of them, carrying nothing, like an officer with a detachment of soldiers.

Foolish indignation rose in me, and I asked my friend if he was not ashamed of seeing the poor creatures toiling so cruelly, while their lords and masters amused themselves. I appealed to his feelings as a man, as if it were likely that he had any. The wretch only laughed. "Ah, massa," he said, with his tongue in his cheek, "women do women's work, men do men's work—all right." "And what is men's work?" I asked. Instead of answering he went on,

"Look at they women, massa—how they laugh, how happy they be! Nobody more happy than black woman, massa."

I would not let him off. I pricked into him, till he got excited too, and we argued and contradicted each other, till at last the horse, finding he was not attended to, went his own way and that was a wrong one. Between Kingston and our destination there is a deep, sandy flat, overgrown with brush and penetrated in all directions with labyrinthine lanes. Into this we had wandered in our quarrels, and neither of us knew where we were. The sand was loose; our miserable beast was above his fetlocks in it, and was visibly drooping under his efforts to drag us along even at a walk.

The sun went down. The tropic twilight is short. The evening star shone out in the west, and the crescent moon over our heads. My man said this and said that; every word was a lie, for he had lost his way and would not allow it. We saw a light through some trees. I sent him to inquire. We were directed one way and another way, every way except the right one. We emerged at last upon a hard road of some kind. The stars told me the general direction. We came to cottages where the name of Cherry Garden was known, and we were told that it was two miles off; but alas! again there were two roads to it—a short and good one and a long and bad one, and they sent us by the last. There was a steep hill to climb, for the house is eight hundred feet above the sea. The horse could hardly crawl, and my "nigger" went to work to flog him to let off his own ill-humor. I had to stop that by force, and at last, as it grew too dark to see the road under the trees, I got out and walked, leaving him to follow at a foot's pace. The night was lovely. I began to think that we should have to camp out after all, and that it would be no great hardship.

It was like the gloaming of a June night in England, the daylight in the open spots not entirely gone, and mixing softly with the light of moon and planet and the flashing of the fire-flies. I plodded on, mile after mile, and Cherry

Garden still receded to one mile farther. We came to a gate of some consequence. The outline of a large mansion was visible, with gardens round it. I concluded that we had arrived, and was feeling for the latch when the forms of a lady and gentleman appeared against the sky who were strolling in the grounds. They directed me still upward, with the mile which never diminished still to be traveled.

Like myself, our weary animal had gathered hopes from the sight of the gate. He had again to drag on as he could. His owner was subdued and silent, and obeyed whatever order I gave him. The trees now closed over us so thick that I could see nothing. Vainly I repented of my unnecessary philanthropy, which had been the cause of the mischief; what had I to do with black women, or white either, for that matter? I had to feel the way with my feet and a stick. I came to a place where the lane again divided. I tried the nearest turn. I found a trench across it three feet deep, which had been cut by a torrent. This was altogether beyond the capacity of our unfortunate animal, so I took the other boldly, prepared, if it proved wrong, to bivouac till morning with my "nigger," and go on with my argument.

Happily there was no need; we came again on a gate which led into a field. There was a drive across it and wire fences. Finally lights began to glimmer and dogs to bark; we were at the real Cherry Garden at last, and found the whole household alarmed for what had become of us.

I could not punish my misleader by stinting his fare, for I knew that I had only myself to blame. He was an honest fellow after all. In the disturbance of my mind I left a rather valuable umbrella in his buggy. He discovered it after he had gone, and had grace enough to see that it was returned to me.

OCEANIA

The Australian Desert

By PETER EGERTON WARBURTON

WE are to commence our flight to the Oakover at sunset. God grant us strength to get through ! Richard is very weak and so am I. To get rid of a small box, we selected a few bottles of homeopathic medicines for use and ate up all the rest. How much of our property we had thrown away before we resorted to this expedient of lightening the loads may be guessed. I started later than we intended, our course about west by south. The sand-hills are more troublesome than we have had them for some time. When we wanted to look north and south for water, the sand-hills generally ran east and west ; now, when we particularly wish to avoid crossing them, we are compelled to do so from their running north-west by west. The eclipse of the moon darkened our journey for several hours, but we made a favorable stretch westward for the last few miles of our night's journey. I could not go so far as I had hoped, from the fatiguing character of the country. Camped at three-fifteen A.M.

November 5, 1873.—A strong east wind is blowing. We are compelled to give up smoking while on a short allowance of water. It is a deprivation, for smoke and water stand in the place of food. We started west-south-west at six-thirty P.M., and made twenty-five miles, though we had most trying sand-hills to cross. I became quite unable to continue the journey, being reduced to a skeleton by thirst,

famine, and fatigue. I was so emaciated and weak I could scarcely rise from the ground, or stagger half a dozen steps when up. Charley, a native member of the party, had been absent all day, and we were alarmed about him when he did not return at sunset. I knew not what to do. Delay was death to us all, as we had not water enough to carry us through ; on the other hand, to leave the camp without the lad seemed an inhuman act, as he must then perish. It was six against one, so I waited till the moon was well up, and started at nine P.M.

We made about eight miles, and while crossing a flat heard, to our intense delight, a "cooee," and Charley joined us. Poor lad, how rejoiced we were to see him again so unexpectedly ! The lad had actually walked about twenty miles after all the fatigue of the previous night's traveling; he had run up a large party of natives, and gone to their water. This news of more water permitted us to use at once what we had with us, and the recovery of Charley put us in good spirits. It may, I think, be admitted that the hand of Providence was distinctly visible in this instance.

I had deferred starting until nine P.M., to give the absent boy a chance of regaining the camp. It turned out afterward that had we expedited our departure by ten minutes, or postponed it for the same length of time, Charley would have missed us ; and had this happened, there is little doubt that not only myself, but probably other members of the expedition, would have perished from thirst. The route pursued by us was at right angles with the course taken by the boy, and the chances of our stumbling up against each other in the dark were infinitesimally small. Providence mercifully directed it otherwise, and our departure was so timed that, after traveling from two to two hours and a half, when all hope of the recovery of the wanderer was almost abandoned, I was gladdened by the "cooee" of the brave lad, whose keen ears had caught the sound of the bells attached to the camels' necks.

To the energy and courage of this untutored native may, under the guidance of the Almighty, be attributed the sal-

vation of the party. It was by no accident that he encountered the friendly well. For fourteen miles he followed up the tracks of some blacks, though fatigued by a day of severe work, and, receiving a kindly welcome from the natives, he had hurried back, unmindful of his own exhausted condition, to apprise his companions of the important discovery he had made. We turned toward the native camp and halted a short distance from it, that we might not frighten them away. I was so utterly exhausted when we camped at three A.M. that it was evident I never could have gone on after that night without more food and water. I would therefore thankfully acknowledge the goodness and mercy of God in saving my life by guiding us to a place where we got both.

November 7. — Reached the well at six A.M. The natives fled at our approach, but returned after a little time. Wallaby were procured from them by barter. The fresh meat and plenty of water restored me for a time from my forlorn condition. There are so many natives that they drink more of their own water than we can well spare them. We obtained here the rest we all so much needed.

November 8. — The natives all disappeared at daylight, and our hope of more food goes with them. I have invariably throughout the journey carried my pistol in my belt, but for the last few days its weight was too much for me, and I had put it in my bag. While lying under the shade of a blanket, with my head on the bag, one barrel unaccountably went off, and, had not the muzzle been turned from me, I should have had the ball through my head. My life has again been given to me. Our position now is lat. 20° 41′, long. (by account) 122° 30′; so I hope we are not more than three days' journey from the Oakover, and we expect to find some tributary before reaching the river itself. We trust a better country may supply us with some means of getting food. The natives at this camp have a large sea-shell for a drinking-cup; they have also an old butcher's knife, and seem to be acquainted with cattle. I think they have seen white men before. That they possessed a knowledge of cattle was inferred from the signs they made,

and from a tolerably good imitation of lowing when they saw the camels. All these things cheer us with the hope of our reaching a country in which we may find something to eat.

The terrible sand-hills we have crossed have impeded our progress, and the country yields us nothing whatever ; I cannot get even a crow or a snake. The sun-dried camel meat affords us only a nominal subsistence ; there is not a particle of nourishment in it. We are not particular, and whatever we could get we should eat. One of the camels is reported to be ailing. These animals, though most enduring when well, appear liable to many sudden and unaccountable maladies. We started toward the west at seven P.M. Crossed some sand ridges ; but the flats, though more extensive, are very bad for traveling over, being thickly covered with immense tussocks of spinifex. This and the ailing camel lessened our progress. Passed one small dry clay-pan and several ant-hills, which looks as if we were gradually clearing those frightful sand-hills that have worn us out and cost us so many camels. Camped at three-thirty A.M. . . .

We killed our last meat on the twentieth of October; a large bull camel has therefore fed us for three weeks. It must be remembered that we have no flour, tea, nor sugar; neither have we an atom of salt, so we cannot salt our meat. We are seven in all, and are living entirely upon sun-dried slips of meat, which are as tasteless and innutritious as a piece of dead bark. Unless the game drops into our hands in great abundance, we must kill another camel directly we get to water. Most of us are nearly exhausted from starvation, and our only resource is a camel, which would disappear from before us in a twinkling.

Started at six-fifteen P.M. Traveled five hours ; then took a latitude, which put us in 21° 2′; so we turned west for three hours more, completing twenty miles over very hard country and heavy sand-hills.

November 12. — We find no appearance of change in the country, and suppose that we are more to the eastward

than we supposed, or else the head of the Oakover is laid down more to the eastward than it is. The error is most probably mine, as it is difficult to keep the longitude quite correct after traveling so many months on a general westerly course. Our position is most critical, in consequence of the weakness of the camels. They cannot get over this terrible country and stand the fierce heat without frequent watering and rest. Without water we are helpless.

Three P.M. I have decided to send Lewis, the two camel men, and the black boy on ahead with the best and strongest camels, to try to reach the river, returning to us with water if successful. My son and Dennis White and myself remain behind, but following the first party as fast as our jaded camels can take us. We have abandoned everything but our small supply of water and meat, and each party has a gun.

Lewis and his party started at six P.M. We left ourselves at six-thirty. We could make only about four miles, when we lay down till two A.M. Starting again, we had made about eight miles when we were surprised by a voice, and found we had overtaken the advance party, one of whose camels had knocked up on the previous night. This was a death-blow to our hopes of getting relief by sending them on first. We are hemmed in on every side ; every trial we make fails, and I can now only hope that some one or more of the party may reach water sooner or later. As for myself, I can see no hope of life, for I cannot hold up without food and water. I have given Lewis written instructions to justify his leaving me should I die, and have made such arrangement as I can for the preservation of my journals and maps. The advance party has started again, and we followed till a little after sunrise, when our camels showed signs of distress, and we camped. Should the advance party see likely smokes, they are to turn to them.

My party at least are now in that state that, unless it please God to save us, we cannot live more than twenty-four hours. We are at our last drop of water, and the smallest bit of dried meat chokes me. I fear my son must

share my fate, as he will not leave me. God have mercy upon us, for we are brought very low, and by the time death reaches us we shall not regret exchanging our present misery for that state in which the weary are at rest.

We have tried to do our duty, and have been disappointed in all our expectations. I have been in excellent health during the whole journey, and am so still, being merely worn out from want of food and water. Let no self-reproaches afflict any one respecting me. I undertook the journey for the benefit of my family, and I was quite equal to it under all the circumstances that could be reasonably anticipated; but difficulties and losses have come upon us so thickly for the last few months that we have not been able to move. Thus, our provisions are gone, but this would not have stopped us could we have found water without such laborious search. The country is terrible. I do not believe men ever traversed so vast an extent of continuous desert.

We follow this afternoon on the advance tracks as far as our camels can take us. Richard shot me a little bird. It was only about the size of a sparrow, but it did me good. If the country would only give any single thing we could eat I should do very well, but we cannot find a snake, kite, or crow. There are a few wallabies in the spinifex, but we cannot get them. Our miseries are not a little increased by the ants. We cannot get a moment's rest, night or day, for them.

November 13.—My rear party could advance only eight miles, when the camels gave in. Our food is scanty enough, but our great want is water. We have a little, but dare not take more than a spoonful at a time, while the heat is so great that the slightest exposure and exertion bring on a parching thirst. We are as low and weak as living men well can be, and our only hope of prolonging our lives is in the advance party finding some native camp ; we have seen smokes, but are in too crippled a state to go to them.

November 14.—Early this morning my son took our man White, and started in the direction of the smoke we

had last seen. At mid-day, while I was sipping in solitude a drop of water out of a spoon, Lewis came up with a bag of water. Never shall I forget the draught of water I then got, but I was so weak that I almost fainted shortly after drinking it. The advance party had run up a smoke and found a well about twelve miles off. Our lives were saved, but poor Charley was nearly killed. He had gone forward alone to the native camp, the remainder of the party with the camels keeping out of sight. The blacks treated Charley kindly and gave him water; but when he cooeed for the party to come up, and the camels appeared, then I suppose the men were frightened, and supposed Charley had entrapped them. They instantly speared him in the back and arm, cut his skull with a waddy, and nearly broke his jaw.

I do not think this attack was made with any premeditated malice ; but doubtless they would have killed the lad had not the remainder of the party, rushing to his rescue, frightened them away. Unfortunately, the few medicines we had not eaten had by some oversight been left behind at the camp, where we abandoned almost everything but the clothes we happened to stand up in. Lewis returned to the well, and was to come out and meet us next day with more water. We started at sunset, but could not keep on the tracks for more than two miles, when we camped.

November 15.—We made another effort at daylight to get on, but one of the camels broke down, though it had not carried a saddle. The poor beast had become quite blind, and staggered about in a most alarming way. We could not get her beyond a mile and a half when she knocked up under the shade of a bush, and would go no farther. We therefore also sat down to await the water to be sent out to us. The heat was intense, and my son, having been obliged to walk because the camel could not carry him, suffered very greatly from thirst ; and had not water been brought us before mid-day it would have gone ill with him. Between ten and eleven A.M. Lewis returned with water from the well.

The camel, though we gave it some water, could not move from the shade of the bush. We tried to drive it, and to drag it, but to no purpose, therefore we shot it. My son and White returned to the well for more water, and to bring out camels to carry the meat. Lewis remained with me to cut up the camel and prepare it for carriage. We sent the head and tail, with the liver and half the heart and kidneys, to make soup for Charley, and a little picking for the rest. I hope the fact of the camel's head not having been turne toward Mecca, or its throat cut by a "True Believer," may not prejudice the camel men against the use of what we send.

Cutting up the camel and eating the "tit-bits" was the work of the day. We have now only five camels, and one of them so weak it cannot carry a saddle. Could we but reach the Oakover, we might manage some way or other; but the camels must take us there, or we shall never see it. I am sanguine now that we shall get there with at least four camels; two days ago I expected never to be able to leave the spot I was lying on. . . .

December 25.—We cannot but draw a mental picture of our friends in Adelaide sitting down to their Christmas-dinner, while we lie sweltering on the ground starving, and should be thankful to have the pickings out of any pig's trough. This is no exaggeration, but literal truth. We cut out three bee-holes to-day, but found no honey in any of them. No sign of Lewis. If he is not here by the close of Sunday next, I shall be obliged to suppose he has gone to Roebourne, in which case there can be no hope of his return for the next three weeks, and, except God grant us His help, we cannot live so long on our present supply.

Our lives have been preserved through many and great dangers, so my trust is in God's mercy toward us; it never fails, though it does not take always the course we look for.

We fancied we should find many opossums in the gum-trees, but have not seen one. We have fish close to us, but though we deprive ourselves of the entrails of a bird as bait, they will not take it. We eat everything clean through

from head to tail. Prejudiced cooks may not accept my advice, but I am quite satisfied all birds ought to be cooked whole, extracting what you please afterward. We omitted the latter operation, but this is a matter depending on circumstances.

Our last Christmas at Alice Springs was miserable enough, as we then thought, but the present beats it out and out.

December 26.—Desperately hot, but still dry. Obtained a shag and two white cockatoos. Richard's leg is improving, yet he is exceedingly week; not very much better than I am.

December 27.—Passed in our ordinary heated idleness.

December 28.—Threatening rain, but none fell. How heavily time hangs on our hands! We drink, smoke, and sleep as much as we can, then talk about what we should like to eat.

December 29.—Sahleh's finger is very bad indeed from the scorpion sting. The state of our blood allows no wound to heal of itself, and I have no medicine suitable to his case. If it continues to get worse without any prospect of surgical aid, some one (not I) shall have to chop his finger off with a tomahawk or he will lose his arm and his life.

Lewis not having returned, I am compelled to think either that there is no station on the De Grey, or that he has missed it and gone on to Roebourne, in which case he cannot be back for a fortnight. Our position stands thus: We have abundance of water, a little tobacco, and a few bits of dried camel. Occasionally an iguana or a cockatoo enlivens our fare, and lastly, I hope the late rain will bring up some thistles or pig-weed that we can eat.

Our difficulties are to make our meat last, though, so far from doing us good, we are all afflicted with scurvy, diarrhœa, and affection of the kidneys from the use of it. We cannot catch the fish, we cannot find opossums or snakes, the birds won't sit down by us, and we can't get up to go to them. We thought we should have no difficulty in feeding ourselves on the river, but it turns out that from one

cause or another we can get very little, and we are daily dropping down a peg or two lower.

I am, however, satisfied that sending down to look for the station was our best plan; if it fail, the two who have been sent may save their lives, and we have a chance of saving ours if we can only hold out, whereas had we all remained, we should have eaten the two camels that are gone, and scarcely have progressed twenty miles ; after that our case would have been hopeless. I cannot tell how it may turn out, but I do not regret the measure. We must wait patiently, I am sure Lewis will do all that can be done. His endurance, perseverance, and judgment are beyond all praise, and his various services have been most valuable. My great fear is that the summer rains may set in and stop his return, but we must hope for the best.

A few hours after making the above entry in my journal Lewis returned with an ample supply for all our wants and with six horses to carry us down.

I need not say how thankful we were, or how quickly we set to work at the food. The camels with the heavier supplies are to come up to-morrow. We all feel most grateful to Messrs. Grant, Harper, and Anderson for their promptitude and liberality.

My companions are all eating to the extent of their powers; for myself, I was too weak to stand the sudden change of food, and am ill in consequence. . . .

I have now only to close my journal. We have been more than a year on the journey. All distances forward and backward included, our land traveling, as nearly as I can estimate it, has amounted to 4000 miles. We have all got through our trials better than could have been expected. I believe my son and myself are the only two European sufferers. I have lost the sight of one eye, and my son is much shaken in health. Sahleh, the Afghan, left his finger in Roebourne. Beyond this I know of no harm that has been done. We started with seventeen camels and ended with two.

OCEANIA

Volcanic New Zealand

By JAMES ANTHONY FROUDE

OUR immediate business was to visit the famous Terraces, the eighth wonder of the world. [These were destroyed by an earthquake a few years after Froude's visit in 1885.] . . . The Terraces were twenty-four miles off. We were to drive first through the mountains to a native village which had once been a famous missionary station, called Wairoa. There we were to sleep at an establishment affiliated to the Lake Hotel, and the next day a native boat would take us across Tarawara Lake, a piece of water as large as Rotorua, at the extremity of which the miracle of nature was to be found.

We had brought a letter of introduction from Sir George Grey to the chief of Wairoa—a very great chief, we learned afterward, who declined allegiance to the king. It was to his tribe that the Terraces belonged, and to them we were to be indebted for boat and crew and permission to see the place. The sum exacted varied with the number of the party. There were three of us, and we should have £4 to pay. The tariff is fixed, to limit extortion; the money goes to the villagers, who make a night of it and get drunk after each expedition.

A native guide, a lady, would attend us and show off the wonders. There was a choice of two, whose portraits we had studied in the Auckland photograph shops. Both were middle-aged. Sophia was small and pretty, she had

bright black eyes, with a soft expression, and spoke excellent English. Kate was famous for having once dived after and saved a tourist who had fallen into the water, and had received the Humane Society's medal. We delayed our selection till we had seen these famous rivals.

At night the scene is said to be more beautiful than in the day, the fireflies being so many and so brilliant that the glades seem as if lighted up for a festival of the fairies. It is altogether a preternatural kind of place; on emerging from beneath the trees we found ourselves on the edge of a circular lake or basin of beautifully transparent sapphire-colored water, a mile in diameter, with no stream running into it or out of it, and closed completely round with woods, cliffs, and rocky slopes. No boat or canoe floats on its mysterious surface. It is said to contain no living thing save a dragon, which has been seen on sunny days to crawl upon a bank to warm himself. I was reminded instantly of the mountain lake in the "Arabian Nights" where the fisherman drew his net at the bidding of the genius. Here, if anywhere in the world, was the identical spot where the five fish were taken out—red, blue, yellow, purple, and green—that terrified the king's cook by talking in the frying-pan. The dragon might really be there for anything that I could tell; anything might be there, so weird, so enchanted, was the whole scene.

Following the beach for a quarter of a mile, and listening to the voices of the waves which rippled on the shingle, we turned around a shoulder of rock, and saw, a hundred feet below us, and divided from the blue lake by a ridge over which a strong hand might throw a stone, a second lake of a dingy green color—not enchanted, this one, but merely uncanny looking. I suppose below both these are mineral springs which account for the tint. Out of the green lake a river did run—a strong, rapid stream, falling in cataracts down a broken ravine, and overhung by dense clumps of trees with large glossy leaves. The road followed the water into a valley, which opened out at the lower end. There stood Wairoa and its inhabitants.

The fall itself was worth a visit, being finer perhaps than the finest in Wales or Cumberland. We had to crawl down a steep slippery path through overhanging bushes to look at it from the bottom. The water fell about two hundred feet, at two leaps, broken in the middle by a black mass of rock. Trees started out from the precipices and hung over the torrent. Gigantic and exquisitely graceful ferns stretched forward their waving fronds and dipped them in the spray. One fern especially I noticed, which I had never seen or heard of, which crawls like ivy over the stones, winds round them in careless wreaths, and fringes them with tassels of green.

Returning to the upper regions, we followed a path which ran along the shoulder of a mountain. On our left were high beetling crags, on our right a precipice eight hundred feet deep, with green open meadows below. The river, having escaped out of the gorge, was winding peacefully through them between wooded banks, a boat-house at the end, and beyond the wide waters of Tarawara, inclosed by a grand range of hills, which soared up blue and beautiful into the evening air. I had rarely looked on a softer and sweeter scene. . . .

We strolled home. On the way I found what I took to be a daisy, and wondered as I had wondered at the pimpernel at Melbourne. It was not a daisy, however, but one of those freaks of nature in which the form of one thing is imitated, one knows not why, by another.

Kate and her assistant, Marileha, rowed us across the lake, landing us at the mouth of a small river. We took off our boots and stockings, put on canvas shoes which a wetting would not spoil, and followed our two guides through the bush, waiting for what fate had in store for us, Miss Mari laughing, shouting, and singing to amuse Kate, whose head still ached. After a winding walk of half a mile, we came again on the river, which was rushing deep and swift through reeds and Ti-tree. A rickety canoe was waiting there, in which we crossed, climbed a bank, and stretched before us we saw the White Terrace in all its strangeness ;

a crystal staircase, glittering and stainless as if it were ice, spreading out like an open fan from a point above us on the hillside, and projecting at the bottom into a lake, where it was perhaps two hundred feet wide.

The summit was concealed behind the volumes of steam rising out of the boiling fountain from which the silicious stream proceeded. The stairs were about twenty in number, the height of each being about six or seven feet. The floors dividing them were horizontal, as if laid with a spirit-level. They were of uneven breadth—twenty, thirty, fifty feet, or even more ; each step down being always perpendicular, and all forming arcs of a circle, of which the crater was the center. On reaching the lake the silica flowed away into the water, where it lay in a sheet half submerged, like ice at the beginning of a thaw.

There was nothing in the fall of the ground to account for the regularity of shape. A crater has been opened through the rock a hundred and twenty feet above the lake. The water, which comes up boiling from below, is charged as heavily as it will bear with silicic acid. The silica crystallizes as it is exposed to the air. The water continues to flow over the hardened surface, continually adding a fresh coating to the deposits already laid down, and, for reasons which men of science can no doubt supply, the crystals take the form which I have described.

The process is a rapid one ; a piece of newspaper left behind by a recent visitor was already stiff as the starched collar of a shirt. Tourists ambitious of immortality have penciled their names and the date of their visit on the white surface over which the stream was running. Some of these inscriptions were six and seven years old, yet the strokes were as fresh as on the day they were made, being protected by the film of glass which was instantly drawn over them.

The thickness of the crust is, I believe, unascertained, the Maories objecting to scientific examination of their treasure. It struck me, however, that this singular cascade must have been of recent—indeed, measurably recent—origin. In the middle of the terrace were the remains of a Ti-tree bush,

which was standing where a small patch of soil was still uncovered. Part of this, where the silica had not reached the roots, was in leaf and alive. The rest had been similarly alive within a year or two, for it had not yet rotted, but had died as the crust rose around it. Clearly nothing could grow through the crust, and the bush was a living evidence of the rate at which it was forming. It appeared to me that this particular staircase was not perhaps a hundred years old, but that terraces like it had successively been formed all along the hillside as the crater opened now at one spot and now at another.

Wherever the rock showed elsewhere through the soil it was of the same material as that which I saw growing. If the supply of silicic acid was stopped the surface would dry and crack. Ti-trees would then spring up over it. The crystal steps would crumble into less regular outlines, and in a century or two the fairy-like wonder which we were gazing at would be indistinguishable from the adjoining slopes. We walked, or rather waded, upward to the boiling pool ; it was not in that we were to be bathed. It was about sixty feet across, and was of unknown depth. The heat was too intense to allow us to approach the edge, and we could see little, from the dense clouds of smoke which lay upon it. We were more fortunate afterward at the crater of the second Terrace.

The crystallization is ice-like, and the phenomenon, except for the alternate horizontal and vertical arrangement of the deposited silica, is like what would be seen in any northern region when a severe frost suddenly seizes hold of a waterfall before snow has fallen and buried it.

A fixed number of minutes is allotted for each of the "sights." Kate was peremptory with E—— and myself. Miss Marileha had charge of my son. "Come along, boy," I heard her say to him. We were dragged off the White Terrace in spite of ourselves, but soon forgot it in the many and various wonders which were waiting for us. Columns of steam were rising all around us. We had already heard, near at hand, a noise like the blast-pipe of some

enormous steam-engine. Climbing up a rocky path through the bush, we came on a black gaping chasm, the craggy sides of which we could just distinguish through the vapor. Water was boiling furiously at the bottom, and it was as if a legion of imprisoned devils were roaring to be let out. "Devil's Hole" they called the place, and the name suited well with it.

Behind a rock a few yards distant we found a large open pool, boiling also so violently that great volumes of water heaved and rolled and spouted, as if in a gigantic saucepan standing over a furnace. It was full of sulphur. Heat, noise, and smell were alike intolerable. To look at the thing, and then escape from it, was all that we could do, and we were glad to be led away out of sight and hearing.

Again a climb, and we were on an open level plateau, two acres or so in extent, smoking rocks all round it, and, scattered over its surface, a number of pale brown mud-heaps, exactly like African ant-hills. Each of these was the cone of some sulphurous geyser. Some were quiet, some were active. Suspicious bubbles of steam spurted out under our feet as we trod, and we were warned to be careful where we went. Here we found a photographer, who had bought permission from the Maories, at work with his instruments, and Marileha was made to stand for her likeness on the top of one of the mud piles. We did not envy him his occupation, for the whole place smelt of brimstone and of the near neighborhood of the Nether Pit.

Our own attention was directed particularly to a hole filled with mud of a peculiar kind, much relished by the natives, and eaten by them as porridge. To us, who had been curious about their food, this dirty mess was interesting. It did not, however, solve the problem. Mud could hardly be so nutritious as they professed to find it, though it may have had medicinal virtues to assist the digestion of crayfish.

The lake into which the Terrace descended lay close below us. It was green and hot (the temperature near 100°), patched over with beds of rank reed and rush, which

were forced into unnatural luxuriance. After leaving the mud-heaps we went to the water-side, where we found our luncheon laid out in an open-air saloon, with a smooth floor of silica, and natural slabs of silica ranged around the sides as benches. Steam fountains were playing in half a dozen places. The floor was hot—a mere skin between us and Cocytus. The slabs were hot, just to the point of being agreeable to sit upon. This spot was a favorite winter resort of the Maori—their palavering-hall where they had their constitutional debates, their store-room, their kitchen, and their dining-room. Here they had their innocent meals on dried fish and fruit, here also their less innocent, on dried slices of their enemies. . . .

We were now to be ferried across the lake. The canoe had been brought up—a scooped-out tree-trunk, as long as a racing eight-oar and about as narrow. It was leaky, and so low in the water that the lightest ripple washed over the gunwale. The bottom, however, was littered with fresh-gathered fern, which for the present was dry, and we were directed to lie down upon it. Marileha stood in the bow, wielding her paddle, with her elf-locks rolling wildly down her back. The hot waves lapped in and splashed us. The lake was weird and evil-looking. Here Kate had earned her medal. Some gentleman, unused to boats, had lost his balance, or his courage, and had fallen overboard. Kate had dived after him as he sank, and fished him up again.

The Pink Terrace, the object of our voyage, opened out before us on the opposite shore. It was formed on the same lines as the other, save that it was narrower, and was flushed with pale-rose color. Oxide of iron is said to be the cause, but there is probably something besides. The water has not, I believe, been completely analyzed. Miss Mari used her paddle like a mistress. She carried us over with no worse misfortune than a light splashing, and landed us at the Terrace foot.

A youth took charge of us, and led us up the shining stairs. The crystals were even more beautiful than those

which we had seen, falling like clusters of rosy icicles, or hanging in festoons like creepers trailing from a rail. At the foot of each cascade the water lay in pools of ultramarine, their exquisite color being due, in part, I suppose, to the light of the sky refracted upward from the bottom.

In the deepest of these we were to bathe. The temperature was 94° or 95°. The water lay inviting in its crystal basin. E—— declined the adventure. I and A—— hung our clothes on a Ti bush and followed our Maori, who had already plunged in, being unencumbered, except with a blanket, to show us the way. His black head and copper shoulders were so animal-like that I did not altogether admire his company ; but he was a man and a brother, and I knew that he must be clean, at any rate, poor fellow, from perpetual washing. The water was deep enough to swim in comfortably, though not over our heads. We lay on our backs and floated for ten minutes in exquisite enjoyment, and the alkali, or the flint, or the perfect purity of the element, seemed to saturate our systems. I, for one, when I was dressed again, could have fancied myself back in the old days when I did not know that I had a body, and could run up-hill as lightly as down.

The bath over, we pursued our way. The marvel of the Terrace was still before us, reserved to the last, like the finish in a pheasant battue. The crater at the White Terrace had been boiling; the steam rushing out of it had filled the air with cloud, and the scorching heat had kept us at a distance. Here the temperature was twenty degrees lower; there was still vapor hovering over the surface, but it was lighter and more transparent, and a soft breeze now and then blew it completely aside. We could stand on the brim and gaze as through an opening in the earth into an azure infinity beyond. Down and down, and fainter and softer as they receded, the white crystals projected from the rocky wall over the abyss, till they seemed to dissolve not into darkness but into light. The hue of the water was something which I had never seen, and shall never again see on this side of eternity. Not the violet, not the harebell, near-

est in its tint to heaven of all nature's flowers ; not turquoise, not sapphire, not the unfathomable ether itself, could convey to one who had not looked on it a sense of that supernatural loveliness. Comparison could only soil such inimitable purity. The only color I ever saw in sky or on earth the least resembling the aspect of this extraordinary pool was the flame of burning sulphur. Here was a bath, if mortal flesh could have borne to dive into it! Had it been in Norway, we should have seen far down the floating Lorelei, inviting us to plunge and leave life and all belonging to it for such a home and such a companionship. It was a bath for the gods and not for man. Artemis and her nymphs should have been swimming there, and we Actæons daring our fate to gaze on them.

This was the end of our adventure—a unique experience. There was nothing more to see, and any more vulgar wonders would now have been too tame to interest us. We returned to the canoe, and were rowed over the lake and down the river. Flights of ducks rose noisily out of the reed-beds. Cormorants wheeled above our heads. Great water-hens, with crimson heads and steadfast eyes, stared at us as we went by. The stream, when we struck into it, ran deep and swift and serpentine, low-hidden between flags and bushes. It was scarcely as broad as our canoe was long, and if we had touched the bank anywhere we should have been overturned. Spurts of steam shot out at us from holes in the banks. By this time it seemed natural that they should be there as part of the constitution of things. In a few minutes we were at the spot where we had landed in the morning.

BIOGRAPHIES

Sir Samuel White Baker, a distinguished explorer, was born in London, in 1821. At an early age he displayed a strong desire for travel, and in 1848, with his brother, organized a model colony and coffee estate in Ceylon. In 1855 he went to the Crimea, and subsequently originated the first Turkish railway. Six years later he traveled extensively in Africa, in the effort to reach the head-waters of the Nile. The year 1879 he spent in Cyprus, and between then and 1892 he visited India seven times. He died in Sandford, Orleigh, England, on December 30, 1893. His works are: "The Rifle and the Hound in Ceylon," "Eight Years' Wanderings in Ceylon," "The Albert Nyanza, Great Basin of the Nile, and Explorations of the Nile Sources," "Ismailia," "Cyprus as I Saw It in 1879," "Wild Beasts and their Ways."

Giovanni Battista Belzoni, explorer, was born in Padua, Italy, in 1778, and educated for the monastery, but, preferring a more adventurous career, came to England in 1803, to seek his fortune. Being a man of unusual muscular development he endeavored to gain money by exhibiting feats of strength in the streets and at fairs. In 1815, after visiting Spain, he traveled and explored extensively in Egypt. In 1823 he started to explore the Niger River, but died at Gato, in Benin, before accomplishing his purpose.

James Bryce was born in Glasgow, Scotland, in 1838. He graduated from Glasgow University, then entered Trinity College, Oxford, where he graduated in 1862. He was called to the bar, and subsequently has held the positions of Regius Professor of Civil Law at Oxford, and Professor of Civil Law to the Council of Legal Education. He entered the House of Commons in 1880, and in 1886 became Under-secretary for Foreign Affairs. He is author of "The Holy Roman Empire," "Travels in Transcaucasia," "The American Commonwealth."

John Ludwig Burckhardt, a Swiss traveler, was born at Lausanne, in 1784. He was educated at Göttingen, and on a visit to London in 1809 offered his services to the African Association, and was sent by them to Syria, where he spent two years. He passed through the Nubian desert, and arrived at Mecca in 1814. In the character of a pilgrim he visited Mount Ararat. He returned to Cairo in 1816, and in October, 1817, when about to join a caravan for Fezzan, was attacked with a violent fever, of which he died.

Frederick Gustavaus Burnaby was born in Bedford, England, March 3, 1842. He traveled extensively in South America and Central Africa, and has written, "A Ride to Khiva," "On Horseback Through Asia Minor," "A Ride Across the Channel." He was killed in the battle near Aboo Klea, in Nubia, January 17, 1885.

Sir Richard Francis Burton, a celebrated English traveler, was born about 1821, in Hertfordshire, England. Intended for the church, he matriculated at Oxford; but in 1842 entered the East India Company's service and earned the character of the most remarkable and intrepid of modern travelers. Under the auspices of the Geological Society of London he explored Arabia in 1853, but he owes his particular distinction to his travels in Africa, and his discovery of Lake Tanganyika. He died October 20, 1890. His principal works are: "The Nile Basin," "Personal Narrative of a Pilgrimage to Mecca," "First Footsteps in East Africa," "The Lake Regions of Central Africa," "The City of the Saints," "Wanderings in West Africa," "Ultima Thule."

Sebastian Cabot, an English navigator, was born in Bristol, England, in 1477. He made several voyages with his father, and in 1497 discovered the coast of North America, supposedly Labrador or Newfoundland. In 1512 he entered the service of the King of Spain, and remained for five years, being made a member of the Council of the Indies. In 1526 he commanded a Spanish expedition which explored the River La Plata. He returned to England about 1548, was granted a pension and became governor of a company in trade with Russia. He died soon after 1557.

C. J. Desiré Charnay, a French traveler, was born in 1828, educated in France, and spent much time in travel about Europe. In 1857, wishing for larger and newer fields, he went to Mexico and traveled extensively there. A few years later he made another tour of that country, which he has described in such works as: "History of Modern Monuments in Mexico," "Ancient Cities of the New World," "The Civilization of the Toltecs," "Indian Princes before the Conquest."

Edward Daniel Clarke, an English traveler, was born in Willingdon, England, in 1769. In 1790 he made a tour of Great Britain, and two years later he visited France, Italy, and Switzerland. In 1799 he started on a three years' tour, which extended through Northern Europe, Asia Minor, Syria, and Egypt. He published "Travels in Various Parts of Europe, Asia, and Africa," and "The Mineral Kingdom." He died in March, 1822.

William Clark, explorer, was born August 1, 1770, in Virginia. He entered the United States Army in 1792, but withdrew in four years on account of ill health, and turned his attention to hunting in hopes of benefit. In 1803 he joined Captain Lewis on an exploring tour across the continent to the Pacific. Clark was appointed governor of Missouri in 1813, and served until 1821. In 1822 he became Superintendent of Indian Affairs at St. Louis, where he remained until his death in 1838.

SAMUEL SULLIVAN COX, a statesman and humorist, known sometimes as "Sunset" Cox, was born in Zanesville, Ohio, September 30, 1824. He graduated from Brown University in 1846, studied law, and was admitted to the bar in Cincinnati. From 1850 to 1853 he traveled in Europe, and on his return edited the Ohio Statesman, of Columbus. In 1855 he was appointed Secretary of the U. S. Legation at Lima, Peru, but returned home the following year. He entered Congress as a Democrat, March 4, 1857, and, barring the interval between 1865 and 1868, remained in Congress until 1885, when he was sent as U. S. Minister to Turkey. He stayed abroad but a year, and, returning to New York, was again elected to Congress. During his career he was several times Speaker *pro tem.* of the House, was a promoter of the life-saving and mail-carrying services, and served as Regent of the Smithsonian Institution. He was able and humorous as a debater. His books are "The Buckeye Abroad," published in 1853; "Puritanism in Politics," in 1863; "Eight Years in Congress," in 1865; "A Search for Winter Sunbeams," in 1870; "Why We Laugh," in 1876; "Free Land and Free Trade," in 1876; "Arctic Sunbeams" and "Orient Sunbeams," in 1882; "Three Decades of Federal Legislation," in 1885; "The Isles of the Princess" and "The Diversions of a Diplomat in Turkey." He died in New York City, September 10, 1889.

VASCO DA GAMA, a celebrated Portuguese navigator, was born in Sines, Portugal, but the date of birth is unknown. He became celebrated in 1497 as commander of a fleet which Emanuel of Portugal sent to India, and was the first European to reach that far-off region by way of the Cape of Good Hope. The discovery of this route marked the beginning of an important era in commercial history. In 1502 he was sent to India again in charge of a much larger fleet. On his return in December, 1503, he was accorded a royal welcome and high honor. He was appointed Viceroy of India in 1524. He died at Cochin the following year.

EDMONDO DE AMICIS, an Italian traveler and novelist, was born at Oneglia, October 21, 1846. He began his studies at Cuneo, took up some preliminary work in the Instituto Candallero at Turin and entered the military school at Modena, which he quitted in 1865 as sub-lieutenant in the 3d regiment of the line. In 1866 he fought in the battle of Custozza, and in the following year was established at Florence as director of the newspaper, Italia Militare. After the seizure of Rome by the troops of King Victor Emmanuel he retired from the volunteer army organized in the cause of Italian independence, and turned to literature as a pursuit, having already published in 1868 some sketches under the title "La Vita Militare" (Military Life). He published "Recordo del 1870–71," in the latter year, and in 1872 brought out a volume of short stories containing "Gli Amici di Collegio," "Camillo Furio," "Un Gran Giorno," "Alberto," "Fortezza," and "La Casa Paterna." He traveled extensively in Spain, Holland, and Morocco, and made visits to London, Paris, and Constantinople, afterward embodying the results of his observations in "La Spagne" (Spain), published in 1873; "Recordi di Londra" (London), and "Olanda,"

in 1874; "Constantinople," in 1877–8; "Morocco" and "Recordi di Parigi" (Paris), in 1879. In addition to these he has published "Ritrtti Literati" (Literary Portraits); also, "Poesi," in 1881; "La Porta d'Italia" (The Gate of Italy), in 1884; "Sull' Oceano" (Upon the Ocean), in 1889, and "Scènes de la Vie Militaire" (Scenes of Military Life), "Cuore," "Il Vino," and "Il Romanzo di un Maestro" (Romance of a Master).

JOHN CHARLES FRÉMONT, explorer and soldier, was born January 21, 1813, in Savannah, Ga. In 1828 he entered the junior class in Charleston College. He had a special fondness for mathematics, but his restless spirit and disregard of college regulations caused his expulsion. For a few years afterward he taught mathematics, then took a long cruise on a U. S. man-of-war. On his return his college gave him his degree, and he shortly became assistant engineer in the U. S. Topographical Corps, exploring mountain passes in North Carolina and Tennessee. He was placed in command of an exploring expedition to the Territories about 1841, and succeeded in placing the American flag on the highest point of the Rocky Mountains, a peak which now bears his name. For his heroism and success in the West he received from the Government, in 1844, the double brevet of lieutenant and captain. He made several efforts to find a passage to California, and finally succeeded in 1843. He was elected governor in 1846, and became the first of the two senators from the State of California to the United States Senate in 1850. He was nominated in 1856 for president, but was defeated. During the Civil War he rose to the rank of a general. He was governor of Arizona from 1878 to 1881. His death occurred in New York City in 1890.

JAMES ANTHONY FROUDE, historian and littérateur, was born in Dartington, near Totnes, Devonshire, April 23, 1818. He received his education at Westminster and Oriel College, Oxford, taking his degree in 1840. Two years later he was elected a Fellow of Exeter. He was acquainted with the Tractarians, Newman and Mozly, and was regarded as a possible recruit through his older brother, Hurrell Froude. He contributed the "Life of St. Noet" to Newman's series of the "Lives of the English Saints," but the work seemed to confirm a predisposition toward liberal views, and his "Nemesis of Faith," published in 1848, indicated his final severance from orthodoxy. He resigned his fellowship at Oxford when the book was denounced and publicly burned at Exeter Hall, and became a private tutor for a short time. After his marriage, in 1849, he settled in Wales and then at Bideford, and devoted himself to his "History of England in the Eighteenth Century," which occupied him for twenty years, the first volumes appearing in 1856 and the last in 1870. During this time he contributed much to the Westminster Review and Fraser's Magazine. In the autumn of 1872 he visited the United States and delivered a course of lectures on the relations of England and Ireland. His studies in Irish history were printed in 1872–74, under the title "The English in Ireland in the Eighteenth Century." After 1874 he visited South Africa in a semi-official capacity and published the results of his observations in lectures before the Philosophical

Institution of Edinburgh. Ten years later his extended visit to Australia, New Zealand, and the West Indies resulted in his book "Oceana." After the death of Carlyle, in 1881, Froude, who had been his intimate friend and disciple since 1849, began the publication of the autobiographical and biographical remains. These seven volumes, appearing between 1881 and 1884, gave rise to a storm of hostile criticism on account of their unreserved disclosures. Public opinion has ever since failed to understand the real motive of the editor. On the death of E. A. Freeman, in 1892, Lord Salisbury appointed Froude Regius Professor of Modern History at Oxford. He died in Kingsbridge, Devonshire, October 20, 1894. Some of his important books not mentioned above are "Short Studies on Great Subjects" (1867), a second series in 1871, a third in 1877, and a fourth in 1882; "Cæsar, a Sketch," in 1879; "The Two Chiefs of Dunboy: An Irish Romance," in 1889; Lives of Thomas à Becket, in 1878, of Lord Beaconsfield, in 1890, and of Erasmus, in 1894.

THÉOPHILE GAUTIER, the great romanticist, was born at Tarbes (Department of the Hautes-Pyrénées), in Southern France, August 31, 1811. He came to Paris as a child, studied at the College Louis-le-Grand, and afterward at the College Charlemagne, but his education was largely supplemented with instruction by his father. He became a pupil in Rioult's studio, but gave up painting in 1830 to follow the new romantic leader, Victor Hugo. For a time he acted as Balzac's secretary. His first volume was "Poesies," published in 1830, and, two years later, he put forth a romantic poem, "Albertus." His interest in such early seventeenth-century poets as Villon, Théophile, Cyrano de Bergerac, Saint Amant, and Scarron, is shown by his volume of studies, "Les Grotesques," issued in 1844. He was occupied for many years in writing criticisms upon art and the drama for various Parisian papers, in which his judgments were never severe, his effort being mainly to communicate impressions. In 1840 he visited Spain, and afterward saw Italy, Algeria, Constantinople, Russia, and Greece, which he describes as one enamored of the beauty of color rather than as a student of life. As a poet his "Emaux et Camies" (Enamels and Cameos) form the basis upon which rests his fame; while as a novelist four books are notable productions. "Mademoiselle de Maupin" appearing in 1835, "Le Capitaine Fracasse" (Captain Smash-all) a tale of strolling actors of the days of Louis XIII., published in 1863; "Le Roman de la Momie" (The Romance of the Mummy), and "Spirite," a story of spiritualism. In addition to these he has written many charming short stories, a work describing his household pets, "La Nature chez elle" (Nature at Home), and in 1871 he produced his last book, "Tableaux de Siège" (Siege Pictures). Several times during his life his pen gained him a competence, but financial ill fortune seemed to pursue him, and he was repeatedly reduced to poverty without fault of his own, resuming his task each time with undiminished courage and industry. He died in Paris, October 23, 1872.

FRIEDRICH HEINRICH ALEXANDER VON HUMBOLDT, a German geographer and naturalist, was born in Berlin in 1769. He was educated for a political

career, but his feeble health caused him to travel a good deal, which imbued him with an eager desire for distant exploration. In 1799 he embarked on his first expedition, and in July his party landed in Venezuela, where the next four years were spent in exploring the vast extent of that country, together with Ecuador and Peru. Later he returned to Paris, where he prepared his first work for publication. This appeared in 1807. In 1829 he made a journey across Siberia, and between 1830 and 1848 he was sent on various diplomatic missions to France, England, etc. He died in 1859. The full account of his researches occupies thirty-five volumes, and its preparation took him twenty years.

WASHINGTON IRVING was born in New York City, April 3, 1783. His first writing was a series of letters, signed "Jonathan Oldstyle," commenting on society, the theater, etc., of early New York. For two years he traveled with a tutor in Europe and spent some time in Rome with his friend Washington Allston, the painter. He was inclined to take up painting himself, but decided against it and returned to New York to enter the law office of Josiah Ogden Hoffman. In 1807 appeared the "Salmagundi," which ran for a year, being a weekly containing the whims and opinions which he wrote in collaboration with his friend, James K. Paulding. A humorous history of New York under the pseudonym of "Diedrich Knickerbocker" followed. Going to London, he tried to secure a publisher for "The Sketch Book," but was unsuccessful until Sir Walter Scott introduced him to Murray, who undertook the venture, which was a brilliant success, winning praise from Jeffrey, Lockhart, Byron, and Moore. It was followed in 1822 by "Bracebridge Hall" and "Tales of a Traveler." Fearing the vein he had struck, though popular, would not be lasting, he was looking about for new ore when he was invited by A. H. Everett to go to Spain to translate a collection of documents made by Navarrete. This work led naturally into the field of history where he produced his "Life and Voyages of Columbus," followed by the "Voyages and Discoveries of the Companions of Columbus." Becoming interested in the Saracenic records of old Spain he wrote the "Conquest of Granada," "Alhambra," "Legends of the Conquest of Spain," and "Mahomet and his Successors." Returning to America in 1832, after an unbroken absence of seventeen years, he exploited the new West in "Astoria" and "Adventures of Captain Bonneville." He served as minister of the United States to Spain from 1842 to 1846, and after his return wrote the "Life of Oliver Goldsmith" and the "Life of Washington." He died in Sunnyside, Tarrytown, November 28, 1859.

ELISHA K. KANE, an Arctic explorer, scientist, and journalist, was born at Philadelphia, Pa., February 20, 1820. He was noted for his daring spirit, and after graduating from the University of Virginia he took up civil engineering, but an attack of heart disease changed his plans and he entered the Medical School of the University of Pennsylvania, from which he graduated in 1842. Next year he was appointed to the United States Navy as surgeon.

While in China he procured a substitute and went to explore the Philippine Islands. Later he practiced medicine in China, but returned to Philadelphia in 1846, by way of India and Europe. In 1850 Kane sailed as surgeon of the "Advance" to the Arctic seas, and during that trip discovered Grinnell Land, at the head of Wellington Channel. In 1853 he went on another expedition to the northern seas. He published "The U. S. Grinnell Expedition in Search of Slr John Franklin" and "The Second Grinnell Expedition." He died in Cuba, February 16, 1857.

CLARENCE KING, geologist, was born in Newport, R. I., January 6, 1842. He graduated from the Sheffield Scientific School of Yale in 1862, and the following year crossed the continent, on horseback, from the Missouri River to California. He joined the geological survey of California, and continued this work, chiefly in the high Sierra, until 1866. All this time he carefully studied the gold belt. In 1867 he originated and carried out an elaborate plan for a complete geological survey of a section of the Western Cordillera system at the widest expansion, on the fortieth parallel. The Union and Central Pacific railroads were to lie in the vicinity of that parallel. In 1878 the national surveys then in the field were consolidated into the United States Geological Survey, and Mr. King was given the directorship, which office he held until 1881, when he resigned to devote himself to special geological investigations. He died in 1902.

ALEXANDER WILLIAM KINGLAKE, historian, was born in 1811 in Taunton, England, and educated at Eton and Trinity College, Cambridge. Called to the bar in 1837, he rapidly acquired an extensive Chancery practice, from which he retired in 1856 to devote himself to political and historical work. Kinglake wrote only two books, but both are classics. One was the "History of the War in the Crimea," and the other a volume of travels, which he published in 1844 under the title of "Eothen." He died in 1891.

DAVID LIVINGSTONE, explorer, was born in Lanarkshire, Scotland, in 1813. He spent his early life as a laborer in a cotton-mill. In 1838 he was accepted by the London Missionary Society as a candidate for the foreign field, and studied for two years preparing for his career. He was appointed in 1840 to labor in Africa, where he explored and worked until his death, May 1, 1873. He wrote "Missionary Travels and Researches in South Africa in 1857," "Narrative of an Expedition to the Zambesi and its Tributaries," and his "Last Journal."

FRANCIS PARKMAN was born in Boston, September 16, 1823. He fitted for college at Chauncey Hall School, Boston, and entered Harvard. As a freshman he conceived the idea of writing on the old French and Indian wars in America, and adventured some early work in that line. He graduated from college in 1844, and studied law for two years, but gave it up to prepare himself for the historical work he had planned. After reading widely he made a trip in 1846 through the unsettled West, living the native life with the Dacotah Indians and observing their character and habits. From this experience he

wrote "The Oregon Trail," which was published first in a magazine and then in book form in 1847. "The Conspiracy of Pontiac" appeared in 1851, but the exposure incident to the primitive life of the plains had undermined his health, and for several years he devoted his time to horticulture on his place in West Roxbury. He became President of the Massachusetts Horticultural Society for 1871–72, Professor of Horticulture in Bussey Institute at Harvard, and wrote a book on roses. In 1858 he went to Europe to collect materials for the history of the French and English struggles in America, and in 1865 published "The Pioneers of France to the New World." This was followed by "The Jesuits of North America," published in 1867; "La Salle and the Discovery of the Great West," in 1869; "The Old Régime in Canada," in 1874; "Count Frontenac and New France under Louis XIV," in 1877, and "Montcalm and Wolfe," in 1884. He died November 8, 1893.

Zebulon M. Pike was born in Lamberton, N. J., February 5, 1779. After receiving a common-school education he served for a time on the Western frontier. In 1805 he was ordered by the Government to trace the sources of the Mississippi. Later he was sent to explore the interior of the Louisiana territory, and during that long and toilsome journey discovered "Pike's Peak" in the Rocky Mountains. He served during the War of 1812, and received rapid promotion, being appointed brigadier-general in 1813. Receiving a serious wound he died April 27, 1813.

Marco Polo, a Venetian traveler, was born about 1252. In 1275 his first trip was taken in company with his father and uncle to the coast of Kooblai Kahn, who ruled over China and Tartary. He learned several Asiatic languages, and obtained the favor of the Kahn, who sent him on important missions to China and other provinces. He was the first European that entered China, where he spent several years. Returning home about 1295, he commanded a galley in a battle against the Genoese, by whom he was taken prisoner. During his long captivity he composed a narrative of his adventures, which produced a great sensation and was translated into many languages. "When in the long series of ages," says M. Walckenaer, "we search for three men who by the grandeur and influence of their discoveries have contributed most to the progress of geography or of our knowledge of the globe, the modest name of the Venetian traveler presents itself in the same line with the names of Alexander the Great and Christopher Columbus." He died about 1324.

John Wesley Powell was born in Mount Morris, N. Y., March 24, 1834. His early life was spent first in the South and then in Wisconsin and Illinois. He attended Wheaton College and took partial courses in Jacksonville and Oberlin Colleges. Being devoted to natural history, he collected shells, plants, minerals, etc., and became in 1859 secretary of the Illinois Natural History Society. He enlisted in the army at the outbreak of the Civil War and served throughout its course. Afterward he became professor of geology at Bloomington (Ill.) University, and delivered lectures throughout the state. In May, 1867, accompanied by sixteen students he undertook an expedition across the

Great Plains to Colorado, ascending Pike's Peak and Mount Lincoln. The trip to the Grand Cañon of Colorado was made in 1869. He has contributed many valuable works on ethnology, and was the originator of an anthropological philosophy. He died September 23, 1902.

Sir Walter Raleigh, author, navigator, and courtier, was born in Hayes, England, in 1552. He studied for a short time at Oxford, but in 1569, joining a company of volunteers, he fought for the Huguenots in France until 1574, and in 1580 served against the Irish insurgents. In 1584 he obtained a royal patent giving him power to govern and colonize any part of the unoccupied regions of North America. In the same year he discovered a region which the queen named Virginia. According to some authorities, he distinguished himself in 1588 in contests against the Spanish Armada. The introduction of the potato and tobacco in Europe was effected by him. By his marriage in 1590 he lost the favor of the queen, but after his successful trip to the Orinoco in quest of El Dorado, he was restored to royal favor and made captain of the guard and governor of Jersey. The death of the queen ended his prosperity, and in 1602 he was tried and convicted of treason. In 1615 he obtained his release by offering to open a gold mine in Guiana; but failing in this he was beheaded in 1618.

Henry Morton Stanley, explorer, was born in 1840 in Denbigh, Wales, and at the age of fifteen became a cabin-boy on an ocean vessel and went to New Orleans, where a merchant named Stanley adopted him and gave him his name. During the Civil War he joined the Confederate Army, but later became an officer on a steamer in the Federal service. In 1867 he went with the British army to Abyssinia as correspondent to the New York Herald. In 1870 the same paper sent him in search of Dr. Livingstone, and in nine months after his arrival on the African coast he succeeded in finding the missing explorer at Ujiji on Lake Tanganyika. He subsequently made several exploring trips in Africa, and in 1887 started on an expedition to relieve Emin Pasha. He is the author of "How I Found Livingstone," "Through the Dark Continent," etc.

Amerigo Vespucci, an Italian navigator, was born March 9, 1451, in Florence, Italy. He was educated by an uncle and applied himself particularly to astronomy and cosmography. About 1490 he moved to Spain and became acquainted with Columbus. He was a merchant in Seville for several years, and in 1499 accompanied an expedition to America. It is asserted that he made four voyages to the New World, but did not command any of them. Entering the service of the King of Portugal, he sailed on an exploring expedition to Brazil in 1501. On his return the next year he was received with great honor and acquired a high reputation by his astronomical discoveries. He died at Seville in 1512.

Eliot Bartholomew George Warburton, a distinguished writer, was born in Ireland in 1810. He took his degree at Trinity College, Cambridge, and was called to the Irish bar in 1837, but gave up his profession to travel

and write. In 1843 he took an extensive tour through Syria, Palestine, and Egypt, and published a description of his travels in a book entitled "The Crescent and the Cross," which passed through seventeen editions. Warburton led a very roving life, and finally perished in the ship "Amazon," lost off Land's End in 1852.

Sir Donald Mackenzie Wallace, a Scottish author, was born at Paisley, November 11, 1841. He was educated at the universities of Edinburgh, Berlin, and Heidelberg. From 1863 to 1884 he lived and traveled mainly in France, Germany, Russia, and Turkey. He was secretary to the Viceroy of India from 1884 to 1889, and accompanied the Czarewitch of Russia as political officer on his visit to India and Ceylon in 1890–91. At present he is director of the foreign department of the London Times. His works of travel are "Russia," 1877; "Egypt and the Egyptian Question."

Peter Egerton Warburton, an Australian explorer, was born in Norwich, England, August 15, 1813. After being educated at Orléans and Paris, he entered the navy in 1825. He served three years and then entered the army, but retired in 1853, with a view to settling in New Zealand as a colonist. Ultimately he chose South Australia instead, and did much toward exploring the interior of that country, publishing a book entitled "Journey Across the Western Interior of Australia." He died at Adelaide, Australia, December 16, 1889.

Edward Whymper, artist, author, and traveler, was born in London, April 27, 1840. He was educated at Clarendon House School and under private tutors. He studied first as a draughtsman on wood, but preferring active work, undertook a series of journeys. He ascended Mont Pelvoux and the Pointe des Ecrins, the latter being the highest of the French Alps, in 1861, and a few years later climbed the Matterhorn. In 1867 he traveled in Northwestern Greenland, and four years later published an account of his Alpine journeys. In recognition of this he received from the King of Italy a decoration. His many travels in Greenland, Ecuador, Switzerland, etc., have resulted in the acquisition of valuable botanical collections, which have been deposited in the British Museum and South Kensington. His works are "Scrambles Amongst the Alps in the Years 1860–69," "Travels Amongst the Great Andes of the Equator," "Chamounix and Mont Blanc," "The Valley of Zermatt and the Matterhorn."